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Charlotte College

1949

CATALOG
1959-1960

charlotte, north carolina

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UNIVERSITY OF NORTH CAROLINA
AT CHARLOTTE

Charlotte College

1949

CATALOG
1959-1960

charlotte, north carolina

A Two-Year Junior College
Accredited by
The Southern Association of
Colleges and Secondary
Schools

Member of
Southern Association of
Junior Colleges
American Association of
Junior Colleges

1959

SEPTEMBER

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OCTOBER

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NOVEMBER

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1960

JANUARY

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JUNE

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JULY

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AUGUST

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CALENDAR OF EVENTS—1959-1960

FALL QUARTER, 1959

September 8-11	Registration of Returning Students
September 16-18	Orientation of New Students
September 21	Registration of New Students
September 22	Registration of Other Students
September 23	First Day of Classes
November 25-29	Thanksgiving Recess
December 7-11	Registration of New and Returning Students for Winter Quarter, 1960
December 14	Last Day of Classes
December 15-17	Final Examinations
December 18	Christmas Vacation

WINTER QUARTER, 1960

December 17	Orientation of New Students
January 4	Registration of Other Students
January 5	First Day of Classes
March 7-11	Registration of New and Returning Students for Spring Quarter, 1960
March 14	Last Day of Classes
March 15-17	Final Examinations

SPRING QUARTER, 1960

March 17	Orientation of New Students
March 18	Registration of Other Students
March 21	First Day of Classes
April 15-18	Easter Vacation
May 23-27	Registration of New and Returning Students for First Summer Term, 1960
May 31	Last Day of Classes
June 1-3	Final Examinations
June 5-6	Graduation Exercises

SUMMER SESSION, 1960

First Summer Term

June 7	Registration
June 8	First Day of Classes
July 4	Holiday for Independence Day
July 13	Last Day of Classes
July 14-15	Final Examinations

Second Summer Term

July 18	Registration
July 19	First Day of Classes
August 22	Last Day of Classes
August 23-24	Final Examinations

ADMINISTRATIVE ROSTER FOR 1958-1959

BOARD OF TRUSTEES OF CHARLOTTE COMMUNITY COLLEGE SYSTEM

J. Murrey Atkins, *Chairman*
Dr. E. A. Beaty
Thomas M. Belk
Linn D. Garibaldi
John Paul Lucas
John A. McRae
Cecil Prince
Addison H. Reese
Oliver Rowe
Sheldon P. Smith
R. L. Taylor
Dr. Thomas Watkins, Sr.
Dr. E. H. Garinger, *Secretary*
Bonnie E. Cone, *Treasurer*

OFFICERS OF ADMINISTRATION

Bonnie E. Cone	*Director*
W. L. Yarbrough	*Business Manager*
Harper Higgins	*Registrar*
Mildred English	*Director of Student Personnel*
Mrs. James M. Knox	*Secretary*
Mrs. Hazel B. Mullins	*Secretary*
Omega Stafford	*Secretary*

FACULTY 1958-1959

Adams, John K.	*Inspection Methods*	B.S.M.E., Armour Institute (Ill. Inst. of Tech.)
Baker, L. Evelyn	*English*	A.B., Winthrop College, A.M., Duke University
Barron, John I.	*Communications Circuits*	B.S., Clemson College
Barton, Easley B.	*Fields and Circuits*	B.E.E., Clemson College
Brady, James O.	*Electrical Technology*	B.S.E.E., Duke University
Browning, Thomas G.	*Spanish*	B.S., Madison College, M.A., Peabody College
Bush, T. Keller	*Television Technology*	
Cheek, William E.	*Chemistry*	B.S., M.A., Appalachian State Teachers College

Church, Wayne C. .... *Mathematics*
B.S., M.A., Appalachian State Teachers College

Coble, Bobbie J. .... *Mathematics*
A.B., Catawba College

Corkey, William B. H. .... *Philosophy*
B.A., Queens University, Ireland

Darholt, Jerome O. .... *Engineering Graphics, Mechanical Technology*
B.M.E., North Carolina State College

Denny, Mary R. .... *English*
A.B., Salem College, A.M., Duke University

Fore, Mary S. .... *English*
A.B., Winthrop College, A.M., Columbia University

Freeman, Gordon Q. .... *English*
A.B., Queens College, A.M., Duke University

Funderburk, William H. .... *Surveying*
B.C.E., North Carolina State College

Garr, Fielding S. .... *Chemistry*
B.S., University of Virginia

Gardner, Ernest A., Jr. .... *Basic Electronics*

Gibbons, William B. .... *General Sheet Metal*

Gillett, Rupert .... *English*
A.B., M.A., University of Texas

Glass, John W. .... *Industrial Electricity*
B.S.E.E., Virginia Polytechnic Institute

Goodrum, Cloyd S., Jr. .... *Mathematics*
B.A.E.E., Rensselaer Polytechnic Institute
A.M., University of North Carolina

Granger, Glynn O. .... *Public Speaking*
B.S., East Texas Baptist College

Green, Philip J. .... *History*
A.B., M.A., University of Alabama
Ph.D., University of Chicago

Gyles, Ronald C. .... *Advanced Electronics*
B.E.E., B.S., M.Ed., North Carolina State College

Hall, Grace M. .... *English*
A.B., Glenville State Teachers College
M.A., Marshall College

Hamrick, Byron A., Jr. .... *Statics*
B.S., North Carolina State College

Harrison, Jane E. .... *Business Education*
A.B., Randolph-Macon College
M.B.A., Indiana University

Hechenbleikner, Herbert.......... *Botany, Geology, and Zoology*
A.B., University of North Carolina
A.M., Ph.D., Harvard University

Helms, Keith W.......... *Chemistry*
B.S., University of North Carolina

Higgins, Harper T., Jr.......... *Accounting*
B.S., Presbyterian College
M.Ed., University of North Carolina

Hoyle, Frances B.......... *Spanish*
A.B., Woman's College, University of North Carolina
A.M., New York University

Hutchison, Louise.......... *Mathematics*
A.B., Winthrop College

Lafferty, Oma C.......... *Sociology*
B.A., Tulane University
M.A., University of Chicago

Lawrence, Martha E.......... *Mathematics*
B.A., Winthrop College
M.A., Duke University

McKinnon, Walter H.......... *Fields and Circuits*
B.E.E., North Carolina State College

Macy, Pierre.......... *French and Spanish*
A.B., University of Nancy
M.A., University of Dijon
Ph.D., University of Paris

Mallard, Ephraim P.......... *Communications Technology*

Markham, Eleanor M.......... *Mathematics*
A.B., A.M., Duke University

Martin, Lonnie W.......... *Electrical Machinery*
B.E.E., Georgia Institute of Technology

Morrison, Mildred W.......... *Coordinator of Libraries*
A.B., Hollins College
B.L.S., Pratt Institute

Norman, John H.......... *Chemistry*
A.B., Erskine College
M.A., University of North Carolina

Ploger, Verne R.......... *Economics and History*
B.G.E., M.A., University of Omaha

Plybon, Louise M.......... *Librarian*
B.S., Appalachian State Teachers College
B.S.L.S., M.S.L.S., George Peabody College for Teachers

Raney, Ruth L.......... *Distribution*
B.S., Ohio University
M.L., University of Pittsburgh

Riggsbee, Gayle H.......... *Machine Shop*
A.S., Southern Technical Institute

Robinson, Louella .... *English*
B.A., University of North Carolina

Russell, Luther O., Jr. .... *Engineering Graphics*
B.S.M.E., Duke University

Scherger, Mozelle S. .... *Librarian*
B.S., Appalachian State Teachers College
B.S.L.S., University of North Carolina

Sinclair, Kenneth C. .... *Woodworking*
B.S., M.A., Western Kentucky State College

Slatt, Allan T. .... *Engineering Graphics*
B.S.M.E., Purdue University

Sledge, Hartwell K., III .... *Electrical Circuit Analysis*
B.S.E.E., North Carolina State College

Smith, John F. .... *Mathematics*
A.B., M.A., Furman University

Stewart, Faye E. .... *Accounting*
B.B.A., Wake Forest College
M.Ed., University of North Carolina

Stribling, Bruce H., Jr. .... *Communications Circuits*
B.S.E.E., Clemson College

Swofford, Clyde .... *Mathematics*
A.B., Wake Forest College

Thorne, Albert M. .... *Chemistry*
B.S., Leigh University

Thornton, Sam M. .... *Psychology*
B.A., University of Dayton
M.A., Ohio University

Tinkham, Mark F. .... *Physics*
A.B., M.Ed., University of North Carolina

Watson, Flora Mae .... *Mathematics*
A.B., Winthrop College

Wheelock, John G. .... *Economics*
L.L.B., Northwestern University Law School

Whitener, Joseph B. .... *Mathematics and Physics*
A.B., M.A., Trinity College (Duke University)

Winningham, Edyth F. .... *History and Political Science*
A.B., University of North Dakota
A.M., University of North Carolina

Woodruff, Harvey L. .... *Choral Director*
B.S., New York University
M.A., Teachers College, Columbia University

COMMITTEES OF THE FACULTY

ADMINISTRATIVE

Miss Cone, *Chairman*

Mr. Darholt
Miss Denny
Miss English
Mr. Higgins
Mrs. Winningham
Mr. Yarbrough

ADMISSIONS

Mr. Higgins, *Chairman*

Miss Cone
Mr. Darholt
Miss Denny
Miss English
Miss Fore
Dr. Macy
Miss Raney

ALUMNI

Mrs. Hoyle, *Chairman*

Miss Denny
Miss Markham
Mr. Norman
Mr. Reid
Mr. Tinkham
Mrs. Winningham

CATALOG COMMITTEE

Mr. Higgins, *Chairman*

Miss Fore
Mr. Norman

COMMENCEMENT

Miss Denny, *Chairman*
Mr. Tinkham, *Co-Chairman*

Mr. Darholt
Mr. Higgins
Mrs. Hoyle
Dr. Macy
Mr. Woodruff

CONCERTS, LECTURES, AND PROGRAMS

Dr. Macy, *Chairman*

Miss English
Miss Fore
Dr. Green
Mr. Tinkham
Mrs. Winningham
Mr. Woodruff

COUNSELING

Miss English, *Chairman*
Mr. Tinkham, *Co-Chairman*

Miss Cone
Mr. Darholt
Miss Denny
Miss Fore
Mr. Goodrum
Dr. Green
Dr. Hechenbleikner
Mr. Higgins
Mrs. Hoyle
Miss Lawrence
Dr. Macy
Miss Markham
Mr. Norman
Miss Raney
Mrs. Winningham

CURRICULUM

Mr. Norman, *Chairman*

Mr. Barton
Miss Cone
Mr. Darholt
Miss Denny
Miss Fore
Mr. Goodrum
Dr. Green
Dr. Hechenbleikner
Mr. Higgins
Mrs. Hoyle
Dr. Macy
Miss Markham
Mr. McKinnon
Miss Raney
Mr. Russell
Mr. Tinkham
Mrs. Winningham

LIBRARY

Mrs. Scherger, *Chairman*

Mr. Darholt
Miss Fore
Mr. Goodrum
Dr. Hechenbleikner
Dr. Macy
Mr. Norman
Mrs. Plybon

PUBLIC RELATIONS

Mr. Reid, *Chairman*

Mr. Darholt
Miss English
Miss Fore
Mr. Higgins
Dr. Macy
Miss Raney

PUBLICATIONS

Miss Denny, *Chairman*

Miss Baker
Miss English
Miss Fore
Mr. Higgins

SCHOLARSHIPS, LOANS, AND AWARDS

Miss Fore, Miss English, *Chairmen*

Miss Cone
Mr. Darholt
Miss Denny
Miss Raney
Mr. Yarbrough

STUDENT GOVERNMENT

Mrs. Winningham, *Chairman*

Miss English
Miss Markham
Dr. Macy
Mr. Yarbrough

SOCIAL ACTIVITIES

Miss English, *Chairman*

Dr. Macy
Miss Markham
Miss Raney
Mr. Woodruff

GENERAL INFORMATION

OBJECTIVES OF THE COLLEGE

Charlotte College desires to serve the individual and the community by providing for young people and adults education for enriched personal living, for cultural development, and for responsible citizenship. Its major aims are to prepare young people for occupational competency and for admission to senior college or university and to offer for adults continued opportunities in vocational, cultural, and general education.

More specifically the basic objectives are threefold:

1. Preparation for further academic or pre-professional study in a four-year college or university through the two years of college work in most major fields.
2. Preparation for immediate employment through the two-year courses in business and technical education.
3. Further education for employed adults who desire increased occupational competency or personal growth through organized study in vocational and general education.

HISTORY

In the summer of 1946 when North Carolina colleges anticipated an unprecedented increase in enrollment because of returning veterans, the North Carolina College Conference and the State Department of Public Instruction decided to sponsor college centers to provide for first-year college work in Charlotte and in eleven other communities in this state. In 1946-1947 the Charlotte College Center was the largest in the state. With the addition of second-year college work in the fall of 1947, the enrollment of the Charlotte College Center reached 304, making it larger than all the other college centers combined.

Because the North Carolina College Conference felt that the emergency in education was over in 1949, the Conference voted to discontinue its sponsorship of the college centers after June 1949. However, the large enrollment maintained throughout 1948-1949, indicative of the continued need of such an institution in Charlotte, prompted the Board of School Commissioners to take measures to provide for a permanent college. At the request of the Charlotte Board of School Commissioners, a bill providing for the continuation of the Charlotte College Center as a permanent community college was passed by the 1949 session of the General Assembly. This bill authorized the Board of School Commissioners to administer the college as a part of the public school system and to finance the institution by charging the students tuition. At the outset any additional finances which were needed were to be provided from non-tax monies. In the event that these funds proved to be insufficient, the measure authorized a special election to provide a tax of not more than five cents on the $100. Since it had been apparent for some time that the available income was inadequate, a special tax election was held and passed by the electorate of the city of Charlotte on May 18, 1954. The passage of this election provided a two cents tax on the $100 property valuation for the Charlotte Community College System of which Charlotte College is a part. In 1955 the General Assembly of North Carolina made the first appropriation for support of Charlotte College.

The two cents city levy voted in 1954 was eliminated on April 26, 1958, when citizens of Charlotte and Mecklenburg County voted a two cents tax on the $100 property valuation in Mecklenburg County for the support of the Charlotte Community College system. This officially brought the college under the North Carolina community college system, gave it its first Board of Trustees, and made it eligible for annual grants-in-aid from the State.

On November 4, 1958, a successful bond election in Mecklenburg County provided the necessary local funds which assured the college of the maximum State grant to enable it to acquire a site and initiate its building program. The 260-acre campus on highway 49, located about eight miles from the center of Charlotte, was purchased on February 4, 1959.

In the 1958-1959 session, the first year under its own board of trustees, Charlotte College reached a total enrollment of 1154 individuals, including 1041 in regular college classes and 113 students in non-college credit courses. The college has a faculty of 64 full or part-time instructors.

LOCATION

Charlotte College is located in the city of Charlotte in Mecklenburg County, North Carolina. With a population of 164,000, Charlotte serves as the center of commerce, industry, and culture of an area of twenty-four counties.

Classes are held in the Central High School buildings located at the corner of Elizabeth Avenue and Cecil Street, less than a mile from the center of the city. The Charlotte College office is located on the main floor of the building at 221 North Cecil Street.

LIBRARY FACILITIES

The library contains approximately 8,000 volumes and 110 periodicals. A trained librarian with college student assistants has charge of the library.

The Charlotte Public Library, which consists of one main and nine city-county branches, also has available approximately 250,000 volumes. Students find these facilities convenient and are encouraged to use these advantages at every opportunity.

COUNSELING AND TESTING

The college provides counseling service for students by assigning each student to a member of the faculty according to his particular field of interest. The faculty counselor helps the student to arrange his program of study at Charlotte College and approves the courses to be taken prior to the registration for each quarter. Subsequent changes in courses must be made through the counselor. The Director, Registrar, and the Director of Student Personnel are also available to assist the student.

Students who desire help in clarifying their occupational goals may consult the Director of Student Personnel for occupational information sources and for information on aptitude and interest tests to aid in deciding on an occupation.

MEMBERSHIP AND ACCREDITATION

Charlotte College is a member of the North Carolina College Conference, the Southern Association of Junior Colleges, and the American Association of Junior Colleges. It is accredited by the Southern Association of Colleges and Secondary Schools.

Credits earned at Charlotte College in curricula leading to degrees are transferable to senior colleges and universities.

VETERANS AND WAR ORPHANS EDUCATION

Charlotte College provides educational opportunities for veterans and war orphans. Veterans seeking training under the provision of Public Law 894 (Federal Educational Rehabilitation Program), or Public Law 550 (Veterans' Readjustment Assistance Act of 1952), and war orphans seeking training under Public Law 634 (War Orphans' Educational Assistance Act of 1956) must enroll for a minimum of fourteen quarter hours in order to receive full subsistence. Routines involving letters of eligibility, interruption of training, and the like are handled by the college office. Technical questions relating to the Veterans Administration are referred to the Charlotte Office of the Veterans Administration, which is located at 127 West Seventh Street.

Before the time of registration, each veteran or war orphan who wishes to enter Charlotte College should do the following:

1. Make application for admission according to procedure described on pages 18 and 19 of the catalog. Forward to the registrar transcripts of all previous high school and/or college courses completed before or after induction or as a part of Army or Navy basic training or specialized training program, and also records of courses taken by correspondence through the United States Armed Forces Institute. The latter records may be secured from United States Armed Forces Institute, Madison, Wisconsin. All transcripts and records should be sent directly from the school, college, or other agency to Charlotte College.
2. Make application through the local Veterans Administration Office for a Certificate of Eligibility and Entitlement, or, if the veteran has interrupted his previous training in another institution, for a supplemental certificate of eligibility.

War orphans under Public Law 634 and veterans in training under Public Law 894 or 550 will receive an education and training allowance each month from the Government to meet part of the expenses of their training and living costs. Tuition, fees, books, supplies, and equipment will not be paid by the Government; instead, they will have to be paid out of the monthly allowance. A veteran or war orphan will get his monthly allowance some time after the end of each month of training completed. Before the Veterans Administration can pay him, the law requires a certification from the veteran or war orphan and Charlotte College that he was enrolled in and was pursuing his course during that period.

Veterans and war orphans attending Charlotte College are required to maintain satisfactory academic achievement and attendance.

EDUCATION FOR VOCATIONALLY HANDICAPPED

Men and women who have suffered a disability which renders them vocationally handicapped or which might be expected to render them vocationally handicapped are eligible for services of the Division of Vocational Rehabilitation. These services include vocational counseling and guidance, medical treatment, training (payments of costs such as books, fees, tuition), and placement. These services are available at no cost to the individual.

A Vocational Rehabilitation Officer is available in Charlotte for interviewing applicants. Appointments may be made by calling the Vocational Rehabilitation Office, 127 West Seventh Street, telephone FRanklin 5-8686.

EMPLOYMENT SERVICE

The college assists students in securing part-time or full-time employment during their enrollment at Charlotte College and gives special attention to the placement of students who graduate in the terminal curricula. Application should be made in person at the office of the Director of Student Personnel.

STUDENT ACTIVITIES

STUDENT GOVERNMENT

It is the policy of Charlotte College to encourage and develop self government of the students. Student government was organized in 1946, the first year of the Charlotte College Center, and has continued to function since that time.

The Student Government Council is composed of the president, vice-president, secretary, and treasurer of the Student Body; the president, vice-president, secretary-treasurer, and five representatives of the sophomore class; the president, vice-president, and secretary-treasurer of the freshman class; the chairmen of standing committees; and the publications officers. The functions of these school officers include serving the student body in every possible way, forming certain committees vital to the student government program, and formulating with the approval of the students and faculty, certain school policies.

ATHLETICS

The athletic program is at present confined to basketball. Each year the "Charlotte College Owls" are organized under the direction of the college basketball coach, and games are scheduled to be played against other teams of equal rank. Additional sports will be added to the program as college enrollment and student interest indicate the need for them.

RECREATION

Various programs of recreation and entertainment are planned and carried out by the students under faculty supervision. Formal and informal dances are held during holidays and other special occasions throughout the year. Other programs which attract major interest and participation include coffee-hours, picnics, and receptions. Additional recreational activities are sponsored at the suggestion of the student body.

DRAMATICS

Classes and workshops in dramatics will be provided according to student interest. Emphasis is placed on the speech training of individual students and group work in various phases of theatre work—acting, lighting, scenery, and make-up.

PUBLICATIONS

Literary Magazine

The Parnassian, a literary magazine, is published by the members of the Writers Club under the supervision of the English Department. This annual publication was first issued in the spring of 1957 and has as an aim the promotion of interest in good writing. The broad scope of subject matter gives an interesting presentation of student opinion and sentiment.

Newspaper

To provide information for all persons interested in Charlotte College, the students publish a newspaper, the Charlotte Collegian.

The purposes of the newspaper are to create a wholesome school spirit, to support the best traditions of the institution which it represents, to encourage worthy school activities, to promote scholarship, to encourage the ideals of true sportsmanship, and to record the history of the school.

Yearbook

Charlotte College's yearbook, Si Si, was first published in the spring of 1950. Since that time it has greatly increased in size and student interest. The purpose of the yearbook is to present a written and pictorial record of each college year. This publication is supported through local subscriptions along with the Yearbook Fee, a part of the Student Activity Fee. Every student who pays this fee is entitled to a copy of Si. Si.

ORGANIZATIONS

Academic

Le Cercle Francais, the French Club is open to all students interested in the language, customs and culture of the French people. Social and educational meetings are held for the purpose of broadening the members' knowledge of the French civilization and increasing their conversational ability in the French language.

The *Physical Science Club* of Charlotte College is an organization with the purpose of pursuing science collectively among the members. The club meets regularly the third Saturday of every month. This meeting starts with dinner, which is followed by a speaker or a demonstrator. The club has a discussion group in which the members have the opportunity of expanding their ideas among persons with similar interests. The science teachers are the advisors of the club.

The *Spanish Club* is open to all Charlotte College students interested in the Spanish language. Social and educational activities are carried out for the purpose of increasing the students' knowledge of the Spanish speaking countries.

The purpose of the Charlotte College Chapter of *Future Teachers of America* is to inform students of the possibilities offered in the field of education, to help them plan their courses of study, and to give them insight into the actual teaching situation. An attempt is made, also, to direct the interest of others toward the teaching profession.

The *College Council on United Nations* seeks through discussion groups and inter-campus meetings to gain an understanding of the activities of the United Nations and of the problems facing its member nations. Its broader purpose is to encourage student interest in international affairs.

Honorary

Phi Theta Kappa is a national honorary scholastic society whose object is to promote scholarship, to develop character, and to cultivate fellowship among students in the junior colleges of America. The Charlotte College chapter, Iota Lambda, was established in May, 1957. Students who display good moral character and, at the time of election, are within the scholastic upper ten per cent of the regularly enrolled student body are normally eligible for membership.

Sigma Tau Sigma is the national honor fraternity recognizing excellence in social science. The Charlotte College chapter, Alpha, was established in May, 1957, and is open to students displaying interest and achievement in the social sciences.

Social

The principal aim of *Sigma Lambda Chi* fraternity is to promote the high standards and ideals of Charlotte College through wholesome social activities and services to the students and to the college.

Literary

The *Writers' Club* has as its purpose the discovering and developing of talent sufficient to provide a genuine support toward the production of a literary magazine. Membership is by invitation which is issued on the basis of interest and ability and with the consent of all members.

Musical

The *Charlotte College Chorus,* which was re-organized in 1956, has added much to the atmosphere of the school. The members of this group meet weekly with a dual purpose of enjoying singing together and improving their musical abilities. Under leadership of a choral director, the Chorus furnishes musical programs for special events during the year. One quarter hour of credit may be obtained for each quarter of participation.

Publicity

The purpose of the *Radio Workshop* of Charlotte College is to present public programs of interest to the general public. The programs, presented by the students of Charlotte College in cooperation with local radio stations are concerned mainly with the activities and development of Charlotte College.

Religious

Through the study of the Bible, the *Charlotte College Christian Fellowship* aims to enrich and deepen the reality of faith in Christ for each student who participates in the activities of the group.

Advisory

The *Freshman Advisory Committee* was established at Charlotte College during the fall quarter, 1957. There is a dual purpose for this committee: to orient new students in the ways of Charlotte College and to assist the faculty advisers in guiding their students.

GENERAL REGULATIONS

REQUIREMENTS FOR ADMISSION

For Freshman Standing

Formal application for admission to freshman standing is made by submitting (1) personal data called for on an application form which may be obtained from Charlotte College office; and (2) satisfactory high school or preparatory school achievement. Such achievement is indicated by (a) the completion of an accredited four-year high school or preparatory school course, or its equivalent, which ordinarily means graduation; (b) sixteen acceptable units; (c) satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

If the student plans to attend the University of North Carolina or the Woman's College of the University of North Carolina, the sixteen unit minimum offered for admission should include the following required distribution:

English (four years)	4 units
Algebra (one and one-half years)	1½ units
Plane geometry (one year)	1 unit
Foreign language (two years in one language)	2 units
Social science (United States History)	1 unit
Natural science (one year with laboratory)	1 unit
Electives	5½ units

If the student plans to enter the North Carolina State College of Agriculture and Engineering of the University of North Carolina, the sixteen unit minimum offered for admission should include the following required distribution:

English (four years)	4 units
History (one year, United States or equivalent)	1 unit
Algebra (one and one-half years)	1½ units
Plane geometry (one year)	1 unit
Solid geometry (one-half year)	½ unit
(Required only for School of Engineering and Agricultural Engineering)	
Science (one year)	1 unit
Electives	7 units

Students who plan to enter other colleges should consult the catalogs of those institutions for entrance requirements.

If a student enters with deficiencies in foreign language or mathematics, he may remove these deficiencies by taking prescribed courses.

Beginning in September, 1959, all candidates for admission will be required to present satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

Arrangement for these tests is the responsibility of the applicant and should be made with the College Entrance Examination Board, P. O.

Box 592, Princeton, New Jersey, not less than one month before the date of the test. On the application for the test the student should specify that the scores be sent to the Registrar, Charlotte College, 221 North Cecil Street, Charlotte, North Carolina.

College Entrance Board tests are given at a large number of examination centers throughout the United States, including Charlotte, North Carolina, on the following dates:

Wednesday, August 12, 1959
Saturday, December 5, 1959
Saturday, January 9, 1960
Saturday, February 6, 1960
Saturday, March 12, 1960
Saturday, May 21, 1960
Wednesday, August 10, 1960

For Advanced Standing

For advanced standing, application is made by submitting (1) personal data called for on an application form, (2) a transcript of all former college work, and (3) acceptable results of college entrance examinations. If such results are not available, the transfer student will be required to take the Scholastic Aptitude Section of the College Entrance Examination.

A student who has completed two years of college work and wishes to take other required first or second year courses is termed an "Unclassified College Grade" student. In addition to meeting the requirements for advanced standing, such a student must also present a letter of permission from the senior institution to which he expects to transfer the credits earned at Charlotte College.

For Special Students

Students twenty-one years of age or older, who have not been able to secure the required number of units for admission to college, will be allowed to take without credit any college course for which they are prepared. Grades thus earned will be recorded but not transferred because they carry no credit toward graduation.

For Auditors

Students who wish to audit courses must register through the College office. Auditors receive no credit and are not required to attend classes, participate in class discussion, or take tests and examinations.

READMISSION REQUIREMENTS

The college reserves the right to declare a student ineligible to return if his grades do not indicate satisfactory progress.

REGISTRATION

Registration for credit in any course is limited to the first five days of the quarter.

Under the quarter system, three courses of not less than fifteen quarter hours constitute a full college load, but a student may register for less work. For students who maintain a "B" average, special permission may be obtained from the registrar to take an additional course.

EXPENSES

Tuition

The tuition fee is four dollars ($4.00) per quarter hour credit for residents of North Carolina and eight dollars ($8.00) per quarter hour credit for non-residents. The trustees have ruled that a student whose supporting parent (or guardian) has not been a *bona fide* resident of the State of North Carolina for more than six months immediately preceding the day of his first enrollment in the institution shall be termed an out-of-state student with the following exceptions:

(1) A student over twenty-one years of age at the time of his first matriculation who has resided in North Carolina for more than one year other than by virtue of attendance at another college or temporary military assignment, preceding the day of his first enrollment.

(2) A student whose supporting parent is a regular employee of the Federal Government stationed in the State of North Carolina.

(3) A student whose supporting parent is a regular employee of the Federal Government who is employed outside of the State, but who through law is permitted to retain his North Carolina citizenship.

The furnishing of incomplete or incorrect information regarding residence may result in the student's dismissal from college. The Registration Office determines each student's residence status on the basis of existing information and interpretation of regulations.

Registration

A registration fee of five dollars ($5.00) will be charged each quarter.

Late Registration

A fee of five dollars ($5.00) will be charged for students registering after the designated registration day each quarter.

Laboratory Fees

Each student taking a laboratory course must pay, in addition to tuition, a fee to help cover the cost of conducting laboratory experiments. The courses carrying the $5.00 laboratory fees are as follows:

Business Administration 1, 21, 22
Botany 1, 41
Chemistry 1, 2
E.T. 112
E.T. 121
E.T. 131
E.T. 141
E.T. 222
E.T. 232, 233, 234
E.T. 242, 243
E.T. 251, 252, 253
E.T. 261, 262, 263
E.T. 271, 272, 273, 274, 275
E.T. 281, 282, 283
E.T. 291
Geography 38
Geology 41, 42
I.T. 233
M.T. 213, 214, 241
Physics 24, 25
Physics 201, 202, 203
Zoology 1, 41

The courses carrying the $10.00 laboratory fee are as follows:

Chemistry 31, 41, 42
C.T. 211
C.T. 221
C.T. 224
C.T. 231
C.T. 234
C.T. 227
M.E. 101, 102, 103
E.E. 201, 202, 203
E.T. 276
M.T. 121, 122
M.T. 131
M.T. 223, 224, 225
M.T. 232
M.T. 242
M.T. 215

The courses carrying the $15.00 laboratory fee are as follows:

C.E. 201, 202, 203
C.T. 112
C.T. 122
C.T. 132
C.T. 216
C.T. 226
C.T. 236

Student Activity Fee

The basic student activity fee of four dollars ($4.00) a quarter is charged each student. This entitles the student to admission to all college athletic contests, to all dramatic productions, to all other entertainments sponsored by the college, and to a subscription to the college newspaper. The yearbook fee of three and one-half dollars ($3.50) is required of each student upon his entrance for the fall or the winter quarter.

Graduation Fee

All members of the graduating class will pay the graduation fee of six dollars ($6.00) at the beginning of the spring quarter of the year of expected graduation. This fee covers the cost of the diploma and the rental of cap and gown.

Books and Supplies

The estimated average cost of books and supplies per quarter is twenty-five dollars ($25.00), except that an additional estimated fifty-five dollars ($55.00) is payable for most students upon entering an engineering course to provide for drawing instruments, slide rule, and other related equipment, required and payable only once during the pursuit of an engineering course.

Payment of Fees

All charges for tuition and fees are due and payable on the day of registration. Checks and money orders should be made payable to Charlotte College.

Refunds

The registration fee is not refundable.

In case of withdrawal during the quarter the following refund schedule applies:

Period of Enrollment Counted from Day of Registration	Percent of Tuition and Fees Refunded
One week or less (1 to 7 days)	80%
Between 1 and 2 weeks (8 to 14 days)	60%
Between 2 and 3 weeks (15 to 21 days)	40%
Between 3 and 4 weeks (22 to 28 days)	20%
Over 4 weeks (29 days or over)	0%

STUDENT LOAN FUNDS

In the spring of 1958 the first contribution was made to the Charlotte College Student Loan Fund. Additional contributions were made during the year and loans were granted from the fund in the spring quarter, 1959. While the fund is small, the maximum amount which can be borrowed is $25.00 per quarter to be used for books or tuition.

Charlotte College is participating in the National Defense Student Loan Fund program under which students may borrow up to $1,000 per year for room, board, tuition, fees, books and transportation.

Application blanks and details on both loan funds may be obtained from the Director of Student Personnel or the Business Manager.

SCHOLARSHIPS

Friends of Charlotte College have provided a number of scholarships for worthy students who can show definite need for such aid. These scholarships are to be alloted in quarterly payments. Payments after the first and each succeeding quarter are contingent upon the scholarship recipient's maintenance of a satisfactory record for the preceding quarter.

1. One Charlotte College Tuition Scholarship of $500.00 for the fershman and sophomore years.
2. Six Charlotte College Tuition Scholarships of $250.00 each to be awarded annually to a member of the graduating class from each of the senior high schools in Charlotte and in Mecklenburg County.
3. Two Charlotte College Tuition Scholarships of $250.00 each to a high school graduate from any of the surrounding counties.
4. One Charlotte College Tuition Scholarship of $150.00 to be awarded annually.
5. Two Charlotte College Tuition Scholarships of $75.00 each to be awarded annually.

AWARDS

The Charlotte Chapter of the National Association of Accountants awards annually the Herbert Conner Scholarship to a deserving student, preferably a student majoring in business.

Altrusa Award of $150.00 is awarded annually to a freshment student who has shown outstanding scholastic attainment and a loyal spirit of cooperation in college activities.

Bonnie E. Cone Award of $150.00 is awarded to a freshman student who has demonstrated fine college spirit and made a significant contribution to college life.

The Bill Mitchell Award is awarded annually to two students of the graduating class who have shown outstanding qualities of scholarship and leadership and maintained an attitude of unselfish interest in the welfare of their fellow-students and of the college as a whole.

SPECIAL AWARDS FOR 1959-1960

The Alumni Scholarship, first given in 1958, is awarded to a deserving member of the rising sophomore class who has an above average scholastic record for his freshman year at Charlotte College.

The American Business Women's Association is awarding a scholarship for a promising young woman who needs financial assistance.

The Insurance Women of Charlotte are awarding a scholarship of $210.00 to a young woman who has made an outstanding record in her freshman year.

Two L. G. Mumaw Engineering scholarships of $250 each are awarded to two deserving sophomores who are studying engineering, preferably civil engineering. The first of these scholarships was presented by the employees of Easterby and Mumaw, Inc., Charlotte, Raleigh, Greensboro, and Hickory. A second scholarship was given by Mr. Mumaw himself.

The Panhellenic Congress of Charlotte is awarding a two-year scholarship of $180.00 each year to aid a promising young woman to complete two years at Charlotte College.

The Piedmont Chapter of the North Carolina Professional Engineering Society is awarding two scholarships of $250.00 each to outstanding students in the second year of engineering and two scholarships of $250.00 each to outstanding students in the technical terminal division.

The Keymen, the predecessor of the Sigma Lambda Chi, initiated a scholarship which was first awarded in 1951. Sigma Lambda Chi has designated that the award this year should go to an entering freshman from Charlotte or Mecklenburg County who has maintained a "B" average in high school.

COMMENCEMENT MARSHALS

The commencement marshals are rising sophomores who have maintained the highest scholastic average during their freshman year. The marshal who has the best academic record is designated chief marshal.

SCHEDULE OF CLASSES

Evening

Evening classes are scheduled to meet Monday through Friday from four until ten o'clock. Each class period is fifty-five minutes in length. In addition, laboratory sciences and engineering graphics have one or more double periods per week.

Daytime

Charlotte College began offering day classes in September, 1957. Classes will meet from eight in the morning until three in the afternoon.

ATTENDANCE

Regular attendance in all classes is required of all students. Each student in good standing is allowed two free cuts from each class during the quarter, provided this does not exceed two class or two laboratory hours.

After a third absence the student is placed on probation, and any further absence will result in a grade of "F" and may lead to suspension from college. Students absent because of sickness or some other excusable reason must submit a written explanation within two days after returning to school. Absences not explained within two days will be recorded as unexcused. The full responsibility for promptly submitting written explanation for absences and tardies rests upon the student.

A student who has been absent from class on account of prolonged or repeated illness or other emergencies forfeits the cuts which he might otherwise have been allowed for the quarter.

Students on academic probation will not be allowed any unexcused absences.

No student will be given credit for any course unless that student has attended at least 75 per cent of the total number of classes in that quarter.

Three unexcused tardies count as an unexcused absence.

Work omitted because of absence from class, whether excused or unexcused, must be made up promptly.

To make up a scheduled or previously announced test from which he has an excused absence, the student must secure written permission from the registrar. He should then present the permission to the instructor, who will arrange to give the test at a later date. The full responsibility for making arrangements to take the test rests upon the student.

CHANGE OF COURSE

To change a course it is necessary for a student to get the written permission of his advisor, the instructor of the course, and the registrar. No student will be permitted to change a course after the first week of a quarter.

WITHDRAWAL

Any student who leaves the college, except after the close of a quarter, without written notification to the office, will receive a mark of "F" in all courses.

GRADING

The unit of measurement of college work is the quarter hour. It represents one lecture hour per week for one quarter (together with two hours of preparation outside of class) or two hours of laboratory work.

Letters are used to indicate the quality of work done. The meaning of each grade with its accompanying quality points is as follows:

A Excellent—3 quality points per quarter hour credit
B Good—2 quality points per quarter hour credit
C Fair—1 quality point per quarter hour credit
D Passed—0 quality points per quarter hour credit

F Failed—Minus 1 quality point per quarter hour credit
F* Failing when course was dropped—0 quality points per quarter hour credit
I Work incomplete—0 quality points per quarter hour credit
W Official withdrawal from the course—0 quality points per quarter hour credit

Unless a student completes the required assignments by the end of the academic year, his incomplete grade (I) automatically becomes an "F."

Reports of standing of all students will be issued after the close of each quarter.

An average grade of "C" must be maintained in all work undertaken by a candidate for graduation; in other words, he must have as many quality points as he has quarter hours of credit.

In order for a student to remain in college, he must maintain a passing average.

TRANSCRIPTS OF RECORDS

Upon request of the student, academic credits earned in Charlotte College will be transferred to any college or university.

Each student is entitled to one official transcript of his work, provided all accounts with the college have been settled satisfactorily. A student requesting an additional transcript should enclose one dollar for this service.

DEAN'S LIST

In order to qualify for the Dean's List, a student must take a full load of three subjects (at least fourteen quarter hours of work) and maintain at least a "B" average, with no grade lower than a "C."

REQUIREMENTS FOR GRADUATION

A minimum of 90 quarter hours of work is required for graduation, of which 45 hours must be earned at Charlotte College. Upon the satisfactory completion of any of the prescribed courses listed in the following pages, a student is awarded a diploma and the title of "Associate in Arts."

PROGRAMS OF STUDY

The programs of study contained in the following pages are classified as "University Parallel" or "Terminal." Those in the former category are intended for students who plan to transfer to a university or a senior college after completion of lower division work at Charlotte College. Those in the second category are intended for students who do not plan to enter senior institutions, but wish to gain the best possible training in specific fields during two years of college and to enter their chosen vocation on graduation from Charlotte College.

UNIVERSITY PARALLEL CURRICULA

Any of the academic courses offered by the college, if properly selected, should be accepted for transfer to a senior institution and should count, without loss of credit hours, toward a bachelor's degree. But a student who expects to continue his college career or to enter a professional school after leaving junior college should consult the catalog of the institution he expects to attend and select his courses accordingly. Although the registrar or a counselor will gladly assist the student in choosing the courses that will assure junior standing in the senior institution, the final responsibility for selecting the proper courses must rest with the student.

BUSINESS ADMINISTRATION (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Botany 1, Zoology 1, Geography 38 (choose any two)	10

Choose one:

*French 3, 4, and 21 or Philosophy 41	
*Spanish 3, 4, and 21 or Philosophy 41	15

SECOND YEAR

English 3-4 or 6 or 8	10
Economics 31-32	10
Political Science 41	5

Choose one:

History 21, 22	
Philosophy 41, 42	
Political Science 42	
Psychology 1	5

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*The elementary course, 1-2, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language 1, 2, 3, and 4 will fulfill the requirement of language 3, 4, and 21 or Philosophy 41.

**_Choose one:_	
Chemistry 1-2-31	
Geology 41-42	
Physics 24-25	
Mathematics 31-32	10

EDUCATION—ELEMENTARY (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Botany 1 or Zoology 1	5
Choose one:	
*French 3-4-21	
*Spanish 3-4-21	15

SECOND YEAR

English 3-4 or 6 or 8	10
Geography 38	6
History 21-22	10
Choose:	
Economics 31-32	
Education 41	
Philosophy 41-42	
Political Science 41	
Sociology 51-52	10
Choose one:	
Chemistry 1-2	
Geology 41-42	
Physics 24-25	
Mathematics 31-32-33	10

**A student must have two courses in natural science or one course in natural science and one course in mathematics. These courses must include one course in physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

*The elementary course, 1-2, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language 1, 2, 3, and 4 will fulfill the requirement of language 3, 4, and 21 or Philosophy 41.

EDUCATION—SECONDARY (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Choose one:	
Chemistry 1-2	
Physics 24-25	10
Choose one:	
*French 3-4-21	
*Spanish 3-4-21	15

SECOND YEAR

English 3-4 or 6 or 8	10
Choose:	
Geology 41-42	
**Botany 1 or Zoology 1	
Geography 38	
Mathematics 31	
Botany 41	
Zoology 41	10
Choose:	
Economics 31-32	
Education 41	
History 21-22	
Philosophy 41-42	
Political Science 41-42 or 52	
Sociology 51-52	20

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*A student placed in foreign language course number 1 may meet the requirements with courses 1-2, 3-4, provided he has no entrance deficiency in foreign language.

**A student who wishes to take further work in botany and zoology should choose as his first course in these areas Botany 41 or Zoology 41 instead of Botany 1 or Zoology 1.

ENGINEERING CURRICULA (University Parallel)

In cooperation with the Engineering School of North Carolina State College, Charlotte College has developed a correlated program for the first two years of engineering. After completing the two years at Charlotte College, the student with "C" or better average may transfer to North Carolina State College to complete the final two years of the undergraduate program.

In all branches of engineering the requirements for the first year are the same. In the second year the choice of electives must be according to the chosen field. The detailed course of study for the last two years can be obtained from the State College catalog.

If a student plans to transfer to an engineering school other than North Carolina State College, the registrar will assist in planning his curriculum accordingly.

From the engineering curricula suggested below, a student from another field of engineering may also complete the requirements for junior standing at North Carolina State College.

CHEMICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
English 3-4	10
Economics 31-32	10
Chemistry 41-42	12

CIVIL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
English 3	5
Economics 31	5
C. E. 201-202-203	10
E. M. 211	5
Choose one:	
Economics 32	
English 4	
History 21	
Political Science 41	
Psychology 1	5

ELECTRICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
English 3	5
Economics 31	5
E. E. 201-202-203	12
Choose:	
Economics 32	
English 4	
History 21-22	
Political Science 41	
Psychology 1	10

GEOLOGICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
English 3	5
Economics 31	5
Chemistry 41-42	12
Geology 41-42	12

MECHANICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
English 3-4	10
E. M. 211	5
Choose:	
Economics 31-32	
History 21-22	
Political Science 41	
Psychology 1	15

JOURNALISM (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Choose one:	
Chemistry 1-2-31	
Geology 41-42	
Physics 24-25	
Botany 1, Zoology 1, Geography 38, Choose two	10
Choose one:	
French 3-4	10
Spanish 3-4	10

SECOND YEAR

English 3-4	10
Journalism 1-2	10
History 21-22	10
Economics 31-32	10
Choose one:	
French 21-22	10
Spanish 21-22	10

LIBERAL ARTS (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Choose one:	
Chemistry 1-2-31	
Geology 41-42	
Physics 24-25	
Botany 1, Zoology 1, Geography 38 (choose any two)	10
Choose one:	
*French 3-4	
*Spanish 3-4	10

SECOND YEAR

English 3-4 or 6 or 8	10
Choose one:	
French 21-22	
Spanish 21-22	10
Choose one:	
Economics 31-32	
History 21-22	
Philosophy 41-42	
Political Science 41-42 or 52	
Psychology 1 (for students who are not psychology majors)	
Sociology 51-52	10
***Choose one:*	
Chemistry 1-2-31	
Geology 41-42	
Physics 24-25	
Mathematics 31-32-33	10

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*A student placed in foreign language course number 1 may meet the requirements with courses 1-2, 3-4, provided he has no entrance deficiency in foreign language.

**A student must have two courses in natural sciences or one course in natural science and one course in mathematics. These courses must include one course in physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

PRE-LAW COURSES (University Parallel)

Students electing the pre-law course may do so in one of the following ways:

(1) Take the regular liberal arts course.

(2) Take the regular business administration course.

PRE-MEDICINE (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Chemistry 1-2-31	16
Choose one:	
*French 3-4	
*Spanish 3-4	10

SECOND YEAR

Physics 24-25	12
Choose two:	
English 3-4 or 6 or 8	
Chemistry 41-42	
Botany 41	15
Choose one:	
French 21-22	
Spanish 21-22	10

SCIENCE (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Chemistry 1-2-31	16
*French 3-4	10

SECOND YEAR

English 3-4 or 6 or 8	10
French 21-22	10
Physics 24-25 (not for Geology majors)	12
Mathematics 31-32-33 (not for Geology majors)	15
Choose according to major:	
Chemistry 41-42	
Geology 41-42, Geography 38	
History 21-22	10-28

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*A student placed in French 1 or Spanish 1 may meet the requirement with courses 1-2, 3-4, provided he has no entrance deficiency in foreign language.

TERMINAL CURRICULA

The terminal curricula are intended primarily for students who expect to complete their college program in two years or less and go directly into employment. However, some work in each program is transferable to senior colleges so that a person can transfer from a terminal curriculum to a university parallel curriculum without losing all of his credits.

BUSINESS ADMINISTRATION AND ACCOUNTING COURSE (Terminal)

		Quarter Hours
English 1-2	English Composition and Rhetoric	10
History 1-2	Western Civilization	10
Bus. Adm. 1	Introduction to Accounting	5
Mathematics 1	Business Mathematics	5
English 21	English of Business	5
Elective	(Typewriting required of students not proficient)	10

SECOND YEAR

Eng. 3-4 or 5-6	English or American Literature	10
Bus. Adm. 21-22	Accounting Principles	10
Economics 31-32	General Economics	10
Political Sc. 41	Government of the United States	5
Bus. Adm. 5	Business Law	5
Elective		5

GENERAL BUSINESS AND SECRETARIAL SCIENCE COURSE (Terminal)

FIRST YEAR

		Quarter Hours
English 1-2	English Composition and Rhetoric	10
History 1-2	Western Civilization	10
Bus. Ed. 15-16	Beginning Typewriting	10
Bus. Ed. 17-18	Beginning Shorthand	10
Bus. Adm. 1	Introduction to Accounting	5

SECOND YEAR

English 21	English of Business	5
Bus. Adm. 21-22	Accounting Principles	10
Bus. Ed. 25-26	Advanced Typewriting	10
Bus. Ed. 27-28	Advanced Dictation	10
Bus. Ed. 32	Office Machines	5
Bus. Ed. 33	Office Practice	5

ONE-YEAR GENERAL BUSINESS COURSE (Terminal)

		Quarter Hours
English 21	English of Business	5
Mathematics 1	Business Mathematics	5
Bus. Adm. 1	Introduction to Accounting	5
Bus. Ed. 15-16	Beginning Typewriting	10
Bus. Ed. 17-18	Beginning Shorthand	10
Bus. Ed. 32	Office Machines	5
Bus. Ed. 33	Office Practice	5

DISTRIBUTION (Terminal)

The Distribution Curriculum is designed to train business employees in the fields of retail and wholesale selling and buying, personnel work, advertising, small store management, and related areas.

FIRST YEAR

		Quarter Hours
English 1-2	English Composition and Rhetoric	10
Economics 1	Business Economics	5
Mathematics 1	Business Mathematics	5
Psychology 1	General Psychology	5
Bus. Adm. 3	Advertising Copy and Layout	5
Bus. Adm. 4	Selling	3
Bus. Adm. 6	Retail Merchandising	5
Bus. Adm. 9	Advertising Practice Workshop	4
Electives		
Bus. Ed. 15	Typewriting I	5
Bus. Adm. 1	Introduction to Accounting	5
Bus. Adm. 7	Merchandise Information-Textiles	3
Bus. Adm. 8	Merchandise Information-Non-Textiles	3
Pol. Sci. 41	Government of the United States	5

SECOND YEAR

English 9	Public Speaking	3
English 21	English of Business	5
Economics 31-32	General Economics	10
Bus. Adm. 5	Business Law	5
Bus. Adm. 24	Sales Management	5
Bus. Adm. 26	Organization and Operation of Small Business	5
Bus. Adm. 28	Public Relations	5
Bus. Adm. 31	Personnel Management	5
Psychology 21	Applied Business Psychology	5

JOURNALISM (Terminal)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Economics 31-32	10
Political Science 41-42	10
Business Ed. 15-16	10

SECOND YEAR

English 3-4	10
Journalism 1-2	10
History 21-22	10
Political Science 51-52	10
Sociology 51-52	10

TECHNICAL EDUCATION CURRICULA (Terminal)

Charlotte College offers several two-year programs of technical training for individuals preparing for positions in production, operation, maintenance, sales and supervision phases of industry. The primary purpose of these programs is to train individuals for occupations between the skilled crafts and the highly scientific professions.

CIVIL TECHNOLOGY—CONSTRUCTION OPTION (Terminal)

Civil Technology covers an extremely broad field, since it is related to practically every technical activity. The civil technician may help to build the factories of the mechanical industries or the power generating plants of the electrical industry. The curriculum of the Construction Option instructs the student in the preparation of plans, the estimate of materials and costs, use of surveying instruments, and supervision of construction work. He will be prepared to work as a civil engineer's assistant, a construction supervisor, draftsman, estimator, highway technician, or inspector.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
Chemistry 1 (Gen. Descrip. Chem.)	3	4	5
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Mathematics I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Civil T. 111 (Const. Materials)	2	0	2
	15	8	19

SECOND QUARTER

	C	L	Q
Chemistry 2 (Gen. Descrip. Chem.)	3	4	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Mathematics II)	5	0	5
M. E. 102 (Engr. Graphics)	0	4	2
	13	10	18

THIRD QUARTER

	C	L	Q
Bus. Adm. 5 (Business Law)	5	0	5
Physics 25 (General Physics)	5	2	6
English 2 (Comp. and Rhetoric)	5	0	5
M. E. 103 (Engr. Graphics)	0	4	2
	15	6	18

FOURTH QUARTER

	C	L	Q
Mech. T. 212 (Mechanics of Matls.)	5	0	5
C. E. 201 (Surveying I)	1	5	3
Civil T. 211 (Graphic Statics)	0	4	2
Civil T. 212 (Highway Const.)	3	0	3
Civil T. 213 (Heavy Equipment)	3	0	3
	12	9	16

FIFTH QUARTER

	C	L	Q
English 10 (Technical Writing)	3	0	3
C. E. 202 (Surveying II)	1	5	3
Civil T. 221 (Structural Draw. I)	0	4	2
Civil T. 223 (Steel & Timb. Const.)	4	0	4
Civil T. 224 (Materials Lab. I)	0	3	1
Civil T. 225 (Hydraulics)	3	0	3
	11	12	16

SIXTH QUARTER

	C	L	Q
C. E. 203 (Surveying III)	1	5	3
Civil T. 231 (Structural Draw. II)	0	4	2
Civil T. 232 (Concrete Const.)	4	0	4
Civil T. 233 (Cost Estimating)	4	0	4
Civil T. 234 Materials Lab. II)	0	3	1
Civil T. 235 (Water and Sewage)	3	0	3
	12	12	17

CIVIL TECHNOLOGY—SURVEYING OPTION (Terminal)

The curriculum of the Surveying Option fills a great need in the South, by preparing the student for the position of a Licensed Surveyor. In addition he would be qualified to work as a civil engineer's assistant, draftsman, estimator, highway technician, or photogrammetrist.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Math. I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Civil T. 112 (Elem. Surveying I)	2	3	3
	12	7	15

SECOND QUARTER

	C	L	Q
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Mathematics II)	5	0	5
M. E. 102 (Engr. Graphics)	0	4	2
Civil T. 122 (Elem. Surveying II)	2	3	3
	12	9	16

THIRD QUARTER

	C	L	Q
Physics 25 (General Physics)	5	2	6
English 2 (Comp. and Rhetoric)	5	0	5
M. E. 103 (Engr. Graphics)	0	4	2
Civil T. 132 (Plane Surveying)	2	3	3
	12	9	16

FOURTH QUARTER

	C	L	Q
Mech. T. 212 (Mechanics of Matls.)	5	0	5
Civil T. 211 (Graphic Statics)	0	4	2
Civil T. 212 (Highway Const.)	3	0	3
Civil T. 216 (Route Surveying)	2	6	5
Civil T. 111 (Const. Materials)	2	0	2
	12	10	17

FIFTH QUARTER

	C	L	Q
English 10 (Technical Writing)	3	0	3
Civil T. 221 (Structural Draw. I)	0	4	2
Civil T. 224 (Materials Lab. I)	0	3	1
Civil T. 226 (Const. Surveying)	2	6	5
Civil T. 227 (Mapping)	1	4	3
	6	17	14

SIXTH QUARTER

	C	L	Q
Bus. Adm. 5 (Business Law)	5	0	5
Civil T. 231 (Structural Draw. II)	0	4	2
Civil T. 233 (Cost Estimating)	4	0	4
Civil T. 234 (Materials Lab. II)	0	3	1
Civil T. 236 (Topographic Sur.)	2	6	5
	11	13	17

ELECTRICAL TECHNOLOGY—ELECTRONICS OPTION
(Terminal)

The curriculum in the Electronics Option provides general training in the basic studies of English, physics, mathematics, and drawing; as well as specialized training in electrical and electronic theory, circuitry, instrumentation, and practices. Advanced courses fall in the fields of radio, telemetry, television, computers, radar, and transmission.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Mathematics I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Elec. T. 111 (Basic Electricty)	3	0	3
	13	4	15

SECOND QUARTER

	C	L	Q
English. 2 (Comp. and Rhetoric)	5	0	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Mathematics II)	5	0	5
Elec. T. 112 (Direct-Current Cir.)	3	2	4
	18	4	20

THIRD QUARTER

Physics 25 (General Physics)	5	2	6
Math. 103 (Engr. Math. III)	5	0	5
Elec. T. 121 (A-C Circuits I)	4	2	5
Elec. T. 131 (Basic Electronics)	3	2	4
	17	6	20

FOURTH QUARTER

Math. 114 (Electronic Math.)	5	0	5
Elec. T. 222 (A-C Circuits II)	4	2	5
Elec. T. 232 (Ind. Electronics)	3	2	4
Elec. T. 261 (Telephone Tech.)	3	2	4
	15	6	18

FIFTH QUARTER

English 10 (Technical Writing)	3	0	3
Elec. T. 233 (Adv. Electronics I)	3	2	4
Elec. T. 251 (Elec. Machinery)	3	2	4
Elec. T. 262 (Microwave Tech. I)	3	2	4
Elec. T. 281 (Radio Technology I)	3	2	4
	15	8	19

SIXTH QUARTER

Elec. T. 234 (Adv. Electronics II)	3	2	4
Elec. T. 263 (Microwave Tech. II)	3	2	4
Elec. T. 282 (Radio Technology II)	3	2	4
Elec. T. 283 (Television Tech.)	5	2	6
	14	8	18

ELECTRICAL TECHNOLOGY—POWER OPTION (Terminal)

The curriculum of the Power Option provides general training in the basic studies of English, mathematics, physics, and drawing, as well as specialized training in electrical and electronic theory, circuitry, instrumentation, and practices. Advanced courses fall in the fields of electric power production, distribution, and utilization, with special attention to the field of electrical contracting.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

ELECTRICAL TECHNOLOGY CURRICULUM—POWER OPTION

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Mathematics I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Elec. T. 111 (Basic Electricity)	3	0	3
	13	4	15

SECOND QUARTER

	C	L	Q
English 2 (Comp. and Rhetoric)	5	0	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Math. II)	5	0	5
Elec. T. 112 (Direct-Current Cir.)	3	2	4
	18	4	20

THIRD QUARTER

	C	L	Q
Physics 25 (General Physics)	5	2	6
Math. 103 (Engr. Math. III)	5	0	5
Elec. T. 121 (A-C Circuits I)	4	2	5
Elec. T. 131 (Basic Electronics)	3	2	4
	17	6	20

FOURTH QUARTER

	C	L	Q
Math. 114 (Electronic Math.)	5	0	5
Elec. T. 222 (A-C Circuits II)	4	2	5
Elec. T. 232 (Ind. Electronics)	3	2	4
Elec. T. 275 (Elec. Drawing I)	2	2	3
	14	6	17

FIFTH QUARTER

	C	L	Q
English 10 (Technical Writing)	3	0	3
Elec. T. 251 (Elec. Machinery)	3	2	4
Elec. T. 252 (A-C Machinery I)	3	2	4
Elec. T. 272 (Electrical Codes)	3	2	4
Elec. T. 273 (Illumination)	3	2	4
	15	8	19

SIXTH QUARTER

	C	L	Q
Bus. Adm. 5 (Business Law)	5	0	5
Elec. T. 253 (A-C Machinery II)	4	2	5
Elec. T. 274 (Elec. Power Dist.)	4	2	5
Elec. T. 276 (Elec. Drawing II)	0	4	2
	13	8	17

MECHANICAL TECHNOLOGY (Terminal)

The field of Mechanical Technology embraces the manufacture and production of mechanical products and the tools, machines, and processes by which they are made. Emphasis in this curriculum is placed on principles and practices, general and specialized theory, from the standpoint of supervision rather than with a view toward development of manual skills. Technical institute graduates receive the type of general education that is basic to, and in demand by, companies in practically every line of business.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Chemistry 1 (Gen. Descrip. Chem.)	3	4	5
Math. 101 (Engr. Math. I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Mech. T. 121 (Machine Shop I)	0	4	2
	13	12	19

SECOND QUARTER

	C	L	Q
Chemistry 2 (Gen. Descrip. Chem.)	3	4	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Math. II)	5	0	5
M. E. 102 (Engr. Graphics)	0	4	2
Mech. T. 122 (Machine Shop II)	0	4	2
	13	14	20

THIRD QUARTER

English (2) (Comp. and Rhetoric)	5	0	5
Physics 25 (General Physics)	5	2	6
M. E. 103 (Engr. Graphics)	0	4	2
Ind. T. 111 (Industrial Safety)	3	0	3
Mech. T. 223 (Machine Shop III)	0	4	2
	13	10	18

FOURTH QUARTER

Ind. T. 131 (Methods Improve.)	3	0	3
Mech. T. 111 (Man. Proc.)	3	0	3
Mech. T. 131 (Wood Shop)	0	4	2
Mech. T. 212 (Mechanics of Matls.)	5	0	5
Mech. T. 214 (Tool Design I)	2	2	3
Mech. T. 241 (Machine Draw. I)	2	2	3
	15	8	19

FIFTH QUARTER

English 10 (Technical Writing)	3	0	3
Ind. T. 121 (Organ. & Mgmt.)	3	0	3
Ind. T. 233 (Motion & Time Study)	4	0	4
Mech. T. 215 (Tool Design II)	0	4	2
Mech. T. 232 (Pattern Shop)	0	4	2
Mech. T. 242 (Machine Draw. II)	0	4	2
	10	12	16

SIXTH QUARTER

Elec. T. 291 (Indust. Elec.)	3	2	4
Ind. T. 232 (Production Plan.)	3	0	3
Mech. T. 213 (Metallurgy)	3	2	4
Mech. T. 216 (Inspection Meth.)	3	0	3
Mech. T. 224 (Sheet Metal Shop)	0	4	2
Mech. T. 225 (Welding Shop)	0	4	2
	12	12	18

DESCRIPTION OF COURSES

(Note: Figures in parentheses represent quarter hours.)

BOTANY

BOTANY 1: (5) Plant Biology

A study of the structure and function of plants, their evolution and a survey of fundamental biological facts and principles. The every day, every season aspects of plants and their relation to the human race are stressed. Elements of horticulture and conservation practices are discussed. Four lectures and two laboratory hours a week.

BOTANY 41: (6) Plant Biology

To be taken instead of Botany 1 by students intending to major in the natural sciences. An introduction to the structure, physiology, and classification of plants. Four lecture and four laboratory and field trip hours a week.

BUSINESS ADMINISTRATION

BUSINESS ADMINISTRATION 1: (5) Introduction to Accounting

Topics covered include the theory of debits and credits and the construction of the trial balance, work sheet, profit and loss statement, and balance sheet. The problems and materials used are characteristic of the single proprietorship form of business organization.
Three lecture and four laboratory hours a week.

BUSINESS ADMINISTRATION 3: (5) Advertising Copy and Layout

A survey of all forms of advertising, principles of layout; copywriting; production methods; campaign preparation; media selection.

BUSINESS ADMINISTRATION 4: (3) Selling

Fundamental principles of wholesale and retail selling. Each student selects a sales proposition to analyze and sell to a qualified customer.

BUSINESS ADMINISTRATION 5: (5) Business Law

A study of the main principles of law which govern the daily conduct of business with emphasis on contracts and agency.

BUSINESS ADMINISTRATION 6: (5) Retail Merchandising

This course involves such problems as store location, store layout, store organization and management, merchandise control, buying, pricing, and ethical standards in retailing.

BUSINESS ADMINISTRATION 7: (3) MERCHANDISE INFORMATION —TEXTILE FABRICS

Required of those planning to enter department store work or other businesses handling textile fabrics or clothing. This course will cover fibers and fabric construction. It will be applied to merchandising of fabrics and clothing, fashion coordination and interior decoration.

BUSINESS ADMINISTRATION 8: (3) MERCHANDISE INFORMATION —NON-TEXTILES

Various types of information with emphasis on sources of information and methods of keeping up to date. Special project method to be used.

BUSINESS ADMINISTRATION 9: (4) ADVERTISING PRACTICE WORKSHOP

Prerequisite: Business Administration 3

Students practice with advertising layout, production, and copy problems on the basis of a simple formula and procedure, making layouts following a given style, handling production for specific media such as newspapers, writing copy following a given style employing procedures used in an advertising agency or office.

BUSINESS ADMINISTRATION 21-22: (5 each) ACCOUNTING PRINCIPLES

Prerequisite: Business Administration 1

The fundamental principles of accounting are reemphasized and special attention is given to the partnership form of business organization, both from the point of view of the nature of the partnership and from the point of view of the accounting problems peculiar to the partnership form of organization. The corporation is considered and attention is given to the general characteristics and to the fundamental problems of corporation accounting. Three lecture and four laboratory hours a week.

BUSINESS ADMINISTRATION 24: (5) SALES MANAGEMENT

Organization of a sales department; assignment of responsibilities; techniques of selecting the sales force; equipping and training salesmen; territories, routes, compensation; methods of stimulating salesmen; methods of sales control and sales promotion; relation of sales manager to other department heads in an organization.

BUSINESS ADMINISTRATION 26: (5) ORGANIZATION AND OPERATION OF SMALL BUSINESS

The importance of small business, its statue, problems and requirements. Among the topics covered are financing and organizing the business; selecting the location and arranging the layout; establishing policies for pricing, promotion, control, and credit; regulations and taxes; records and record keeping. Application is made to retail, wholesale, and service businesses.

BUSINESS ADMINISTRATION 28: (5) PUBLIC RELATIONS

A study of public relations principles and practices with special attention to its tools, media, responsibilities, and potentialities.

BUSINESS ADMINISTRATION 31: (5) PERSONNEL MANAGEMENT

This course provides job instruction training to improve the supervisor's efficiency in training personnel; supervisory techniques to help the supervisor develop his ability to lead his personnel more effectively; planned discussion and demonstrations of tested techniques to be used in solving problems arising from human relations; employment techniques to assist personnel manager in interviewing, testing, making job analyses, and keeping personnel records.

BUSINESS EDUCATION

BUSINESS EDUCATION 15-16: (5 each) BEGINNING TYPEWRITING

The work in beginning typewriting includes learning the keyboard, operating the parts of the machine, care of the machine, writing simple letters, simple tabulation, continuity writing. In this course more stress is given to accuracy than to speed.

BUSINESS EDUCATION 17-18: (5 each) BEGINNING SHORTHAND

Dictation is begun early in the course, stressing accuracy and form in shorthand penmanship. A consistent speed of sixty words a minute on new material with ninety-five per cent accuracy is required.

BUSINESS EDUCATION 25-26: (5 each) ADVANCED TYPEWRITING

The work includes study of different styles of business letters, manuscript copy, making carbon copies, tabulation, business reports, legal documents, effective display of typed matter. At the end of this course the students are expected to do straight copy at fifty-five words per minute with a minimum of errors.

BUSINESS EDUCATION 27-28: (5 each) ADVANCED DICTATION

The course consists of dictation and transcription with a thorough review of shorthand theory. Accuracy, speed, neatness, and comprehension are developed. Intensive drill is given in the production of mailable transcripts. A minimum dictation rate of one hundred words per minute must be consistently maintained with a high percentage of accuracy.

BUSINESS EDUCATION 32: (5) OFFICE MACHINES

A fair degree of skill is developed in the use of machines such as dictating machines, adding and calculating machines, duplicating machines, filing equipment, and miscellaneous.

BUSINESS EDUCATION 33: (5) OFFICE PRACTICE

Prerequisite: Business Education 15-16 and Business Education 17-18

An effort is made to observe and direct the student in developing those characteristics and personality traits which are desirable and essential in the business office. The main phases of study are office behavior, office methods and procedure, and civil service training. Whenever possible actual office situations are created so that the student is trained not in theory alone, but in practice.

CHEMISTRY

CHEMISTRY 1-2: (5 each) GENERAL DESCRIPTIVE CHEMISTRY

Prerequisite or Co-requisite for Chemistry 1: Math 7 or Math 101

Fundamental principles, theories, and laws of chemistry; occurrence, preparation, properties, and uses of selected elements and their compounds; equilibrium, oxidation and reduction; metallurgy; introduction to organic and nuclear chemistry. Three lecture and four laboratory hours a week.

CHEMISTRY 31: (6) QUALITATIVE ANALYSIS

Prerequisite: Chemistry 1-2 or equivalent
Prerequisite or co-requisite: Math 8 or Math 102

Reactions of electrolytes in solution, chemical equilibrium, semi-micro-analytical techniques, identification of common cations and anions. Three lecture and six laboratory hours a week.

CHEMISTRY 41-42: (6 each) ELEMENTARY QUANTITATIVE ANALYSIS

Prerequisite: Chemistry 31
Prerequisite or co-requisite for Chemistry 42: Physics 25 or Physics 202

Volumetric and gravimetric analysis, techniques, stoichiometry, principles of neutralization, oxidation, precipitation and colorimetric methods. Three lectures and six laboratory hours a week.

CIVIL TECHNOLOGY

CIVIL TECHNOLOGY 111: (2) CONSTRUCTION MATERIALS

This course is designed to familiarize the student with materials of construction and their methods of manufacture.

CIVIL TECHNOLOGY 112: (3) ELEMENTARY SURVEYING I

This is the beginning course in surveying and introduces the student to the use, adjustment, and care of instruments. The student is given field problems involving the use of chains, tapes, levels, and transits.

CIVIL TECHNOLOGY 122: (3) ELEMENTARY SURVEYING II

The work begun in Civil Technology 112 is carried on and completed in this course.

CIVIL TECHNOLOGY 132: (3) PLANE SURVEYING

Prerequisite: Civil Technology 122

Topics covered in this course include land surveying, traverse lines, elementary astronomical surveying, and city surveying.

CIVIL TECHNOLOGY 211: (2) GRAPHIC STATICS

Prerequisites: Physics 24 and Mechanical Engineering 103

Structural problems are solved by graphical methods of calculating reactions, resultants, and stresses.

CIVIL TECHNOLOGY 212: (3) HIGHWAY CONSTRUCTION

Prerequisite: Civil Technology 132 or
Corequisite: Civil Engineering 201

General highway construction, including location, drainage, grading, surfacing, and maintenance are surveyed in this course.

CIVIL TECHNOLOGY 213: (3) HEAVY EQUIPMENT

Prerequisite: Civil Technology 111

This course familiarizes the student with the use and maintenance of heavy construction equipment as well as construction planning for large and small jobs.

CIVIL TECHNOLOGY 216: (5) ROUTE SURVEYING

Prerequisite: Civil Technology 132

A study is made of all phases of surveying concerned with highway location and construction. The student is given field practice which includes all the steps in route surveying from the reconnaissance and preliminary survey to superelevation and the setting of the grade.

CIVIL TECHNOLOGY 221: (2) STRUCTURAL DRAWING I

Prerequisite: Mechanical Engineering 103

Topics covered include structural steel plans, shop detail drawings of beams and beam connections, concrete floor systems, and working drawings of concrete members.

CIVIL TECHNOLOGY 223: (4) STEEL AND TIMBER CONSTRUCTION

Prerequisites: Civil Technology 211 and Mechanical Technology 212

Beam and column design with special attention to fasteners, trusses, and steel frameworks is covered in this course.

CIVIL TECHNOLOGY 224: (1) MATERIALS LABORATORY I

Prerequisites: Civil Technology 111 and Mechanical Technology 212

This course covers the design and testing of cement mixtures as well as testing of soils, aggregates, cement, concrete, and other materials.

CIVIL TECHNOLOGY 225: (3) HYDRAULICS

Prerequisites: Physics 24 and Mechanical Technology 212

A study is made of the basic principles of hydraulics and their effect on static pressure, pipes, channels, and weirs.

CIVIL TECHNOLOGY 226: (5) CONSTRUCTION SURVEYING

Prerequisite: Civil Technology 132

The location of curbs and gutters, a study of drainage control, and the laying out of water and sewage systems are among the subjects covered in this course.

CIVIL TECHNOLOGY 227: (3) MAPPING

Prerequisites: Civil Technology 132 and Mechanical Engineering 103

Contour, boundary, and profile mapping are taught in this course. The use of map projection and aerial photographs will be surveyed also.

CIVIL TECHNOLOGY 231: (2) STRUCTURAL DRAWING II

Prerequisite: Civil Technology 221

The work begun in Civil Technology 221 is carried on and completed in this course.

CIVIL TECHNOLOGY 232: (4) CONCRETE CONSTRUCTION

Prerequisite: Mechanical Technology 212

The student is given instruction in the properties of reinforced and prestressed concrete including calculation of stresses in beams, columns, and slabs.

CIVIL TECHNOLOGY 233: (4) COST ESTIMATING

Prerequisite: Civil Technology 111
Co-requisite: Civil Technology 231

A survey of material and labor costs is made in this course. The student prepares material and labor cost estimates from drawings and specifications.

CIVIL TECHNOLOGY 234: (1) MATERIALS LABORATORY II

Prerequisite: Civil Technology 224

This is the second quarter of a two-quarter course in materials testing. The work begun in Civil Technology 224 is completed in this course.

CIVIL TECHNOLOGY 235: (3) WATER AND SEWAGE

Prerequisites: Chemistry 2 and Civil Technology 225

The principles of water and sewage treatment as well as a study of water and sewage plant operation are covered in this course.

CIVIL TECHNOLOGY 236: (5) TOPOGRAPHIC SURVEYING

Prerequisite: Civil Technology 132

Procedures studied in this course are cross-section surveys, transit-stadia surveys, the plane-table method, and the photogrammetric method.

ECONOMICS

ECONOMICS 1: (5) BUSINESS ECONOMICS

This course covers the economics of distribution, an examination of marketing channels, sources and use of business publications and other materials as applied to the solution of distribution problems.

ECONOMICS 31-32: (5 each) GENERAL ECONOMICS

The organization and underlying principles of modern economic life. The production, exchange, distribution, and consumption of wealth, and auxiliary economic problems.

EDUCATION

EDUCATION 41: (5) INTRODUCTION TO THE STUDY OF EDUCATION

This is an orientation course designed to help develop an understanding of the philosophy and procedures of public education.

ELECTRICAL TECHNOLOGY

ELECTRICAL TECHNOLOGY 111: (3) BASIC ELECTRICITY

An introduction to the basic terminology, concepts, and principles of direct-current electricity. Fundamental relationships between voltage, current, power, and energy in elementary direct-current electrical circuits are established with emphasis on problem application.

ELECTRICAL TECHNOLOGY 112: (4) DIRECT-CURRENT CIRCUITS

Prerequisite: Electrical Technology 111

An introduction to the basic terminology, concepts, and principles of electrical and magnetic fields; properties and characteristics of capacitors, coils and magnets. The laboratory period is devoted to instruction in laboratory practices and direct-current instrumentation.

ELECTRICAL TECHNOLOGY 121: (5) ALTERNATING-CURRENTS CIRCUITS I

Prerequisite: Electrical Technology 112 and Mathematics 102
~~Co-requisite: Physics 25~~

This course covers the fundamentals of alternating current theory and practices as applied to single-phase circuits. The laboratory period is devoted to instruction in laboratory practices and alternating-current instrumentation.

ELECTRICAL TECHNOLOGY 131: (4) BASIC ELECTRONICS

Co-requisite: Electrical Technology 121

The student is given a basic course in the control of free electrons in elementary electronic circuits. Characteristics of tubes, semi-conductors, and circuit analysis of rectifier circuits are studied.

ELECTRICAL TECHNOLOGY 141: (4) SWITCHING CIRCUIT ANALYSIS

Co-requisites: Electrical Technology 121 and Electrical Technology 131

Terminology, classification, properties, and characteristics of switches and relays. Introduction to the mathematics of logic, binary numbers and Boolean algebra. Techniques for the design, analysis and simplification of basic switching circuits.

ELECTRICAL TECHNOLOGY 222: (5) ALTERNATING-CURRENT CIRCUITS II

Prerequisite: Electrical Technology 121
Co-requisite: Mathematics 114

Advanced alternating-current theory and practice as applied to single-phase and polyphase circuits. Further analysis of series and parallel circuits using complex notation. Admittance, conductance and susceptance; anti-resonance circuits. Coupled-circuit theory, mutual inductance, impedence transformation, reflected impedance, transformer theory. Construction, classification, regulation, loss determination, and efficiency of single-phase transformers. Polyphase circuits and transformer connections.

ELECTRICAL TECHNOLOGY 232: (4) INDUSTRIAL ELECTRONICS

Prerequisite: Electrical Technology 131
Co-requisite: Electrical Technology 222

Study of basic industrial electronic circuits and application of these circuits to such devices as electronic timers, voltage regulators, electrostatic air cleaners, motor and generator control systems, web and register control systems, photoelectric systems, single-phase and polyphase rectifiers.

ELECTRICAL TECHNOLOGY 233: (4) ADVANCED ELECTRONICS I

Prerequisites: Electrical Technology 232 and Mathematics 114

A study of the analysis and design of physical systems, which includes the ideal diode, practical rectifiers, ideal amplifiers, basic vacuum-triode amplifiers, practical triode amplifiers, practical transistor amplifiers and multigrid vacuum tubes, is made in this course.

ELECTRICAL TECHNOLOGY 234: (4) ADVANCED ELECTRONICS II

Prerequisite: Electrical Technology 233

This course includes piecewise-linear circuit analysis, systematic analysis of linear electronics circuits, network theorems, frequency dependance of single-stage amplifiers, frequency dependence of cascaded amplifiers, nonsinusoidal signals, transient response, and feedback amplifiers.

ELECTRICAL TECHNOLOGY 242: (3) COMPUTER TECHNOLOGY I

Prerequisite: Electrical Technology 141

Survey of the theory of operation, principles, practices, and applications of digital computers.

ELECTRICAL TECHNOLOGY 243: (3) COMPUTER TECHNOLOGY II

Prerequisite: Electrical Technology 242

Survey of the theory of operation, principles, practices, and applications of analogue computers.

ELECTRICAL TECHNOLOGY 251: (4) ELECTRICAL MACHINERY

Prerequisite: Electrical Technology 222

Construction, characteristics, operation and control, and industrial applications of direct-current motors and generators. Survey of the construction, characteristics, operation and control and industrial applications of alternating-current motors and generators.

ELECTRICAL TECHNOLOGY 252: (4) ALTERNATING-CURRENT MACHINERY I

Co-requisite: Electrical Technology 251

The study of polyphase induction motors and single phase motors including construction, characteristics, operation and control, and industrial applications. Laboratory tests are conducted to study operating principles and determine performance characteristics.

ELECTRICAL TECHNOLOGY 253: (5) ALTERNATING-CURRENT MACHINERY II

Prerequisite: Electrical Technology 252

A study of the design, operating principles, performance characteristics and industrial applications of synchronous motors, synchronous generators, synchronous converters, synchros, servomotors, and amplidynes together with their motor-starting, switching and protective devices. Laboratory tests are conducted on these units.

ELECTRICAL TECHNOLOGY 261: (4) TELEPHONE TECHNOLOGY

Co-requisites: Electrical Technology 222 and Mathematics 114

A study of the operating principles of telephone equipment and circuits, local-battery and common-battery manual offices, automatic dial systems, audio-frequency concepts and techniques. Matched-circuit analysis of lumped-constant and distributed-constant transmission lines. Design of pads, attenuators and filters. Thebenin's and Norton's Theorems.

ELECTRICAL TECHNOLOGY 262: (4) MICROWAVE TECHNOLOGY I

Prerequisite: Electrical Technology 261

High-frequency transmission-line concepts and practical applications. Impedance-matching, transmission-line circle diagram, propagation, standing waves, basic antenna theory, antennas for low-frequency and high-frequency applications, and high-frequency measuring techniques.

ELECTRICAL TECHNOLOGY 263: (4) MICROWAVE TECHNOLOGY II

Prerequisite: Electrical Technology 262

This is the advanced course in microwave theory. Subjects covered include microwave techniques, theory and practice in pulse circuits, radar transmitting and receiving systems, and synchronization.

ELECTRICAL TECHNOLOGY 271: (3) BLUEPRINT READING

Co-requisite: Electrical Technology 272

A study of the practices, techniques, conventions, interpretation, and preparation of blueprints, with emphasis on electrical layout and estimating.

ELECTRICAL TECHNOLOGY 272: (4) ELECTRICAL CODES

Prerequisite: Electrical Technology 222
Co-requisite: Electrical Technology 251

A study of wiring and wiring methods used in buildings. The course material includes wire sizes, types of insulation, electrical fittings, service entrances, distribution centers, branch circuit layout, switching arrangements, motor control circuits, and a thorough examination of the recommendations of the National Electrical Code and the National Electrical Manufacturers Association with illustrative applications of wiring procedures.

ELECTRICAL TECHNOLOGY 273: (4) ILLUMINATION

Co-requisite: Electrical Technology 272.

A study of illumination principles and practices. Modern illumination principles, calculations and equipment are coordinated in design problems of complete fluorescent and incandescent lighting installations.

ELECTRICAL TECHNOLOGY 274: (5) ELECTRIC POWER DISTRIBUTION

Prerequisite: Electrical Technology 272

A study of the fundamental principles of electric power transmission and distribution including the calculation of short and medium length polyphase lines; the study of types and classes of loads, distribution networks, transformer connections and operation, voltage control, and protecting equipment; the study of mechanical principles involved in network design and the study of economic principles of distribution.

ELECTRICAL TECHNOLOGY 275: (3) ELECTRICAL DRAWING I

Prerequisite: Mechanical Engineering 101
Co-requisite: Electrical Technology 222

A study of the practices, techniques, conventions, interpretation, and preparation of electrical drawings, with emphasis on electrical layout and estimating.

ELECTRICAL TECHNOLOGY 276: (2) ELECTRICAL DRAWING II

Prerequisite: Electrical Technology 275

This course is a continuation of Electrical Technology 275. The student is given assignments which he completes on the drawing board.

ELECTRICAL TECHNOLOGY 281: (4) RADIO TECHNOLOGY I

Prerequisites: Electrical Technology 232 and Electrical Technology 261

Voltage amplification as applied to audio-frequency and radio-frequency circuits. Analysis of amplifier circuits and coupling methods, radio-frequency tuning circuits, regenerative and degenerative circuits, decoupling networks, basic oscillator circuits, and comprehensive study of construction, tuning, and alignment of radio receivers through superheterodyne.

ELECTRICAL TECHNOLOGY 282: (4) RADIO TECHNOLOGY II

Prerequisite: Electrical Technology 281

An advanced study of radio-communication circuits is made in this course. Characteristics of amplitude-modulated transmitters, power amplifiers, phase inverters, and modulator circuits as well as broadcast studio techniques and control room equipment are covered.

ELECTRICAL TECHNOLOGY 283: (6) TELEVISION TECHNOLOGY

Co-requisite: Electrical Technology 263

The course includes principles of frequency-modulation, methods of modulation and demodulation, FM transmitter and receiver circuits, and FCC standards for television transmission. A detailed study of television transmitting and receiving equipment, including color television components, is made.

ELECTRICAL TECHNOLOGY 291: (4) INDUSTRIAL ELECTRICITY

Prerequisites: Mathematics 102 and Physics 25

A study of electrical fundamentals, circuit analysis, electrical machinery, control circuits, and industrial applications of electrical equipment.

ENGINEERING

C.E. 201-202-203: (3 each) SURVEYING I, II, III

Prerequisite: Mathematics 101

Elements of plane surveying including taping, transit, level, stadia, plane table, topographic surveying and mapping, care and adjustment of instruments; elementary astronomical surveying; construction surveys; earthwork computations; route surveys; simple, compound, parabolic, and spiral curves; chainage equations. One lecture, two problem, and three laboratory hours a week.

E.E. 201-202-203: (4 each) ELEMENTARY FIELDS AND CIRCUITS

Co-requisites: Mathematics 201, Physics 201
Required of sophomores in electrical engineering

Fundamental laws of electric circuits, magnetic circuits, electric fields, and magnetic fields. Introduction to steady-state alternating-current circuit theory. Two lecture, two problem, and three laboratory hours a week.

E.M. 211: (5) MECHANICS I (STATICS)

Prerequisites: Physics 201, Mathematics 201

Study of the analytical and graphical solution for the resultant and equilibrium of concurrent, parallel, and non-concurrent non-parallel force systems under coplanar or non-coplanar conditions. The application of statics to pin connected members, trusses, and cables; friction; centroids; and moments of inertia. Shear and bending moment equations and diagrams.

M.E. 101-102-103: (2 each) ENGINEERING GRAPHICS

The major areas that will be covered in this work include: instrument practice, geometric construction, orthographic projection, sections, auxiliary views, pictorial drawing, details and assemblies, charts, graphs, freehand sketching, dimensioning, true length, true slope and line as a point, edge view and true size of a plane, shortest distances between lines, a line piercing a plane, intersection of planes, dihedral angle, shortest distances to a plane, angle between a line and a plane, revolution, development of surfaces, intersection of solids, mining problems, aeronautical problems, miscellaneous problems.

ENGLISH

ENGLISH R: (0) REFRESHER ENGLISH

Required of all students who by entrance examination fail to qualify for English 1. Special emphasis will be given to review of grammar, to reading, and to writing.

ENGLISH 1-2: (5 each) ENGLISH COMPOSITION AND RHETORIC

Required of all freshmen. The first quarter's work consists of a review of English fundamentals, frequent themes, and the study of various types of essays. The second quarter's work is essentially a course in composition and rhetoric.

ENGLISH 3-4: (5 each) English Literature

Prerequisite: English 1-2

In the first quarter Chaucer, Shakespeare, and Milton are studied; in the second quarter, the major writers of the nineteenth century.

ENGLISH 5-6: (5 each) American Literature

Prerequisite: English 3 for University Parallel and English 1-2 for Terminal Courses.

This course provides a study of major American writers and their relation to their times. The first quarter covers the period from the Colonial times to the Civil War. The second quarter covers the period from the Civil War to the present day.

ENGLISH 7-8: (5 each) The English Novel

Prerequisite: English 3 for University Parallel and English 1-2 for Terminal Courses.

The work of the first quarter covers the novel from its beginning through Scott. The second quarter covers the novel from Dickens to modern fiction.

ENGLISH 9: (3) Public Speaking

Composition and delivery of original speeches.

ENGLISH 10: (3) Technical Writing

Study of the fundamentals of technical writing style and mechanics with practice in preparing reports of the various types most likely to be used on the job by technicians.

ENGLISH 21: (5) English of Business

A study of the fundamentals of grammar and specific application to business documents and other business papers, the editing of business materials, proofreading, and corrections.

JOURNALISM 1-2: (5 each) News Gathering and Reporting

Prerequisite: English 1-2

A general outline of the principles of newspaper practice, followed by daily work in news gathering, reporting, and writing of news stories. Regular work on the college newspaper is required. Practice work will be arranged with the Charlotte daily newspapers.

FRENCH

FRENCH 1-2: (5 each) Beginners' Conversational French

Study of the fundamentals of grammar and of phonetics through the practical and conversational use of French, with particular emphasis on correct pronunciation and self-expression.

FRENCH 3: (5) France and the French Civilization

Prerequisite: French 1-2 or 2 units of high school French

Study of the geography, economy, history, customs and culture of the

French people. Review grammar. Conducted in French as much as possible.

FRENCH 4: (5) CONTEMPORARY FRENCH SHORT STORY

Prerequisite: French 3 or the equivalent

Reading and discussion of typical contemproray French short stories. Conducted in French as much as possible. Collateral reading of a French novel. Book report.

FRENCH 21: (5) READINGS IN CONTEMPORARY AND CLASSICAL FRENCH LITERATURE

Prerequisite: French 4 or the equivalent

Reading and discussion of short stories, drama, short novel, by outstanding French writers. Conducted in French as much as possible. Collateral reading of two novels. Book reports.

FRENCH 22: (5) INTRODUCTION TO FRENCH LITERARY MASTERPIECES

Prerequisite: French 21 or the equivalent

Readings from the great classical writers, prose and verse. Conducted in French. Collateral reading of two French classical works. Book reports.

FRENCH C 4: (5) INTERMEDIATE PRACTICAL FRENCH CONVERSATION

Prerequisite: French 1, 2, and 3, or two years of high school French

The student's self-expression in everyday French is gradually increased through this course. Conducted mostly in French. Collateral reading of a book. Book report.

FRENCH C 5: (5) ADVANCED PRACTICAL FRENCH CONVERSATION

Prerequisite: French C4 or the equivalent

Informal group conversation and dramatization based on short French texts, newspaper and magazine articles. Conducted in French. Collateral reading of a book. Book report.

FRENCH C 6: (5) ADVANCED CONVERSATION FOR PROSPECTIVE TEACHERS OF FRENCH

Prerequisite: French C5 or the equivalent

Informal group conversation and discussion as for French C 4 and C 5. Students will be asked in turn to give 3 to 5 minute talks in French. Conducted in French. Collateral reading of two books. Book reports.

GEOGRAPHY

GEOGRAPHY 38: (6) INTRODUCTION TO GEOGRAPHY

Besides a basic knowledge of places and products associated with them, the student is instructed in the elements of weather and climate. The relation of man to his environment and its effects on him are stressed. Five lecture and two laboratory hours a week.

GEOLOGY

GEOLOGY 41: (6) PHYSICAL GEOLOGY

The origin of the various rocks, the formation and erosion of natural land features, and the forces of erosion are the chief matters presented in this beginning course. Earthquakes, hurricanes, volcanoes, and similar phenomena are discussed. Five lecture and two laboratory hours a week.

GEOLOGY 42: (6) HISTORICAL GEOLOGY

Prerequisite: Geology 41

Historical geology places emphasis upon earth origin, study of the origin and occurrence of fossils, and the history of the earth as determined by various means. Five lecture and two laboratory hours a week.

HISTORY

HISTORY 1: (5) MAN'S HISTORY TO 1815

A survey of the history of man from the earliest times to 1815 in Europe, in Asia, and in the Americas.

HISTORY 2: (5) CONTEMPORARY CIVILIZATION

A study of world civilization since 1815.

HISTORY 21: (5) AMERICAN HISTORY

History of the United States before 1865.

HISTORY 22: (5) AMERICAN HISTORY

History of the United States from 1865 to the present time.

INDUSTRIAL TECHNOLOGY

INDUSTRIAL TECHNOLOGY 111: (3) INDUSTRIAL SAFETY

A study of the basic principles of industrial accident prevention considering the nature and extent of the accident problem. The course covers mechanical safeguards, fire prevention, occupational disease, hygiene and first aid, safety codes, compensation, safety education programs, and fundamentals of good safety organization.

INDUSTRIAL TECHNOLOGY 121: (3) ORGANIZATION AND MANAGEMENT

The student is given an overall view of the typical industrial organization, with particular emphasis on interrelationship of functions and principles of management. Efficient co-ordination and control through application of the latest developments in industrial technology are stressed. Two lecture periods and two laboratory hours a week.

INDUSTRIAL TECHNOLOGY 131: (3) METHODS IMPROVEMENT

A study of principles and techniques used in production including batch and mass production techniques, practice in writing standard procedure, raw material specifications and manufacturing instructions. The application of the "questioning attitude" in search for better manufacturing methods and job procedures and the four-step method of job improvement are also studied.

INDUSTRIAL TECHNOLOGY 222: (3) SALES AND PURCHASING

A study of the problems encountered in the sales field that require technical or engineering skills and knowledge in their solution. The course covers the methods and principles of industrial sales and service engineering; the nature of the purchasing function, including the art of interview and conference, sources of purchasing information, forecasting ultimate values, and reciprocity purchasing.

INDUSTRIAL TECHNOLOGY 223: (3) CONTRACTS AND SPECIFICATIONS

The general laws of contracts, agency, sales agreements, and engineering specifications as incorporated into contracts; the business, legal, and ethical phases of engineering.

INDUSTRIAL TECHNOLOGY 232: (3) PRODUCTION PLANNING

Evaluation of manufacturing methods and the analysis of machining operations are covered in detail. The course is divided into the following parts: estimating, study of machining elements, and study of machining operations. Three lecture and one laboratory hour a week.

INDUSTRIAL TECHNOLOGY 233: (4) MOTION AND TIME STUDY

Prerequisites: Industrial Technology 131 and Mechanical Technology 223

A study of the principles of motion economy, methods of motion study and micro-motion study, use of standard data and formula construction. The course covers the fundamentals of stop watch time study; effort rating; uses of time study; and the use of synthetic systems of time study.

INDUSTRIAL TECHNOLOGY 241: (3) SUPERVISORY TRAINING

A study of line of responsibility and authority, technique of job instruction, personal leadership, technique of conducting a conference, how to produce for a profit. The subject treats problems of the supervisor as cost man, as safety man, as production man, as quality man, as personnel man, as the manager of his department.

MATHEMATICS

MATHEMATICS A: (0) PLANE GEOMETRY

Five hours a week.

MATHEMATICS G: (0) SOLID GEOMETRY

Five hours a week.

MATHEMATICS R: (0) INTERMEDIATE ALGEBRA

Five hours a week.

MATHEMATICS 1: (5) Business Mathematics

Application of mathematics to typical accounting, financial, and other business problems, including bank discounts, trade discounts, weighted averages, merchandise markup and turnover, application of compound interest principles to annuity, sinking fund, and amortization problems.

MATHEMATICS 7: (5) College Algebra

Functions and their graphs, equations and their solutions, systems of linear equations, determinants, exponents, quadratic equations, inequalities, variation, progressions, mathematical induction, binominal theorem, complex numbers, theory of equations.

MATHEMATICS 7X: (5) College Algebra

Designed for Engineering students.

MATHEMATICS 8: (5) Plane Trigonometry

Identities, reduction and addition formulas, graphs, trigonometric equations, inverse trigonometric functions, solution of right and oblique triangles.

MATHEMATICS 31: (5) Plane Analytic Geometry

Prerequisite: Mathematics 7 and 8

MATHEMATICS 32: (5) Differential Calculus

Prerequisite: Mathematics 31

MATHEMATICS 33: (5) Integral Calculus

Prerequisite: Mathematics 32

MATHEMATICS 101-102-103: (5 each) Freshman Engineering Mathematics I, II, III

The first quarter and a half of this course is a combined course in College Algebra and Trigonometry; the last quarter and a half is the first third of a unified course in Analytic Geometry and Calculus. Topics studied include systems of equations involving quadratics, inequalities, variation, binominal theorem, progressions; logarithms, linear equations and determinents, theory of equations; trigonometric functions of general angle, identities and multiple angle relations, radian measure, inverse trigonometric functions, solution of triangles with emphasis on laws of sines and cosines; rectangular coordinates in the plane, with graphs and equations of lines, algebraic curves, including the conic sections and others examined by general discussion methods; functions, limits, continuity, differentiation of algebraic functions, with applications of derivatives and differentials.

MATHEMATICS 113: (6) Analytic Geometry and Calculus *A*

Prerequisite: Mathematics 8

A one quarter survey course in analytic geometry and the differential and integral calculus.

MATHEMATICS 114: (5) ELECTRONIC MATHEMATICS

Prerequisite: Mathematics 103

A one quarter survey course, which includes integral calculus, electronic applications of calculus, the algebra of circuit analysis, elementary differential equations, and an introduction to Boolean algebra, gives the student practical problems with electrical applications.

MATHEMATICS 201-202-203: (5 each) SOPHOMORE ENGINEERING MATHEMATICS I, II, II

Prerequisite: Mathematics 103 (With a minimum grade of C)

The last two-thirds of a unified course in Analytic Geometry and Calculus. Topics studied include indefinite and definite integrals of algebraic functions and their applications; differentiation of transcendental functions; polar coordinates; parametric equations, curvilinear motion and curvature; formal integration; integration by parts, substitution, and partial fractions; areas, volumes, lengths of curves, centroids, moments of inertia in rectangular and polar coordinates; approximate integration, improper integrals, indeterminate forms; infinite series and expansion of functions; solid analytic geometry and partial differentiation; multiple integrals in rectangular, cylindrical and spherical coordinates.

MECHANICAL TECHNOLOGY

MECHANICAL TECHNOLOGY 111: (3) MANUFACTURING PROCESSES

The technical fundamentals of the important manufacturing processes are covered in this course. Engineering materials are discussed in connection with the modern machine tools necessary for the processing of these materials.

MECHANICAL TECHNOLOGY 121: (2) MACHINE SHOP I

Prerequisite: Mech. T. 111

An introduction to general metal work, the use and care of hand tools, maintenance of tools and equipment. The work is divided into four distinct phases: machine shop, bench metal, forging, and welding. Practical projects will be chosen for each phase using the greatest number and variety of operations. Lectures will be given on the use, manufacture, material made from, of all the common hand and machine tools that are used in the shop. These lectures are correlated with the shop work so the students will have a working knowledge of the tools they are using. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 122: (2) MACHINE SHOP II

Prerequisite: Mech. T. 121

A study of the fundamental machine operations of drilling, reaming, turning between centers, chuck work, thread cutting, layout, and finishing. Special attention is given to cutting speeds, tool and drill grinding, and machine maintenance. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 131: (2) Wood Shop

An introduction to woodwork designed to give students a background of basic woodworking processes. Topics include use of hand tools, sharpening and the upkeep of tools, basic woodworking principles of design and construction. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 212: (5) Mechanics of Materials

Prerequisites: Physics 24 and Mathematics 102

This course covers the various physical properties of the common materials of industry. Structures and machines in equilibrium are considered, and internal stresses of pure compression or tension are evaluated. A study of coplanar forces and force systems, truss solutions, force systems in space, friction and centroids, direct stress, properties of materials, rivited and welded joints, torsion stresses in beams, beam deflections and columns.

MECHANICAL TECHNOLOGY 213: (4) Metallurgy

Prerequisites: Chemistry 2 and Mechanical Technology 223

A study of the fundamentals of metallurgy, grain size, effect of carbon content, and hardness testing devices. Different alloys will be tested to determine the effect of heat treated. Three lecture and two laboratory hours a week.

MECHANICAL TECHNOLOGY 214: (3) Tool Design I

Prerequisites: Mechanical Engineering 103 and Mechanical Technology 223
Co-requisite: Mechanical Technology 212

A study of the applications of principles of strength and rigidity that are necessary in machine tool elements. The theory of strength of materials is put into practice in designing the assigned problems.

MECHANICAL TECHNOLOGY 215: (2) Tool Design II

Prerequisite: Mechanical Technology 214

A study of the factors involved in large quantity production machine processes. This course is designed to give the student a thorough knowledge of the principles, practices, tools, and commercial standards of jig and fixture design.

MECHANICAL TECHNOLOGY 216: (3) Inspection Methods

Prerequisite: Mechanical Technology 223

A study of the use and care of precision inspection instruments and methods of inspection. Types and methods of inspection are compared and discussed from samples chosen from industry as a comparison.

MECHANICAL TECHNOLOGY 223: (2) Machine Shop III

Prerequisite: Mechanical Technology 122

Practical work in the use of gauges, taper turning, gear cutting, square thread cutting, and types of fits. The student will complete a project in advanced machine work. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 224: (2) Sheet Metal Shop

Prerequisites: Mechanical Engineering 103 and Mechanical Technology 223

Shop problems in sheet metal layouts and methods of fabrication of sheet metal. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 225: (2) WELDING SHOP

Prerequisite: Mechanical Technology 223

Fundamentals of both arc and acetylene welding. A study of the most economical methods in regards to welding time, machinability, and ductility. Safe practices in welding, types of rods, and welding symbols are also covered.

MECHANICAL TECHNOLOGY 232: (2) PATTERN SHOP

Prerequisite: Mechanical Technology 131

This course is a basic study of pattern making. The student works in the lab to make different types of patterns and the various allowances, finish, and color code are co-ordinated. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 241: (3) MACHINE DRAWING I

Prerequisite: Mechanical Engineering 103
Co-requisite: Mechanical Technology 212

A course in the drawing of gears, cams, linkages, and other machine parts, assembly drawing of small machines and exploded view drawings.

MECHANICAL TECHNOLOGY 242: (2) MACHINE DRAWING II

Prerequisite: Mechanical Technology 241

The work begun in Mechanical Technology 241 is completed in this course.

MUSIC

MUSIC 1-2-3, 21-22-23 (1 each) CHORUS

The Charlotte College Chorus provides opportunity for students who enjoy singing to gain basic training in the principles of voice production and choral participation. Repertoire includes both sacred and secular music, and public appearances are made each year through assembly programs, and radio presentations, and at baccalaureate and commencement exercises.

MUSIC 4-5-6 (1 each) INDIVIDUAL VOICE STUDY

Basic techniques in the study of singing; classification of the voice, breathing, posture, freedom and vitalization of tone, elements of diction, vocalization, simple songs in English and Italian. One hour of practice daily.

MUSIC 24-25-26 (1 each) INDIVIDUAL VOICE STUDY

More advance techniques in singing. Standard classics in English and Italian with additional study of songs in French or German or Spanish. Memorization of basic repertoire with application of sound principles of interpretation. One hour of practice daily.

MUSIC 7-8-9, 27-28-29 (1 each) MUSIC APPRECIATION

A listening survey of current musical offerings in and around Charlotte for those who wish to enhance their discrimination and enjoyment in the art of listening. Lectures and illustrations through selected recordings are correlated with scheduled "live" presentations. Students are encouraged to attend performances given by worthy music organizations and talented artists, both visiting and local.

PHILOSOPHY

PHILOSOPHY 41: (5) A Systematic Introduction

The student will be led into the problems in the major areas in the field of philosophy. Living issues are stressed. Problems of space-time, relativity, mind-body relationship, materialism, idealism, and pragmatism are studied in an effort to get practical and useful information.

PHILOSOPHY 42: (5) The Development of Philosophy

This course will include a survey in historical perspective of men and movements responsible in ancient, medieval, and modern time for development of philosophical thought. Attention will be given to significant contributions to human thinking. The formations of systems of philosophy in particular will be stressed.

PHYSICS

PHYSICS 24-25: (6 each) General Physics

Physics 24 covers mechanics, heat, and sound. Physics 25 covers electricity and magnetism, optics, and special topics. Five lecture and two laboratory hours a week through two quarters.

PHYSICS 201-202-203: (5 each) Engineering Physics

Co-requisite for Physics 201: Math 201
Co-requisite for Physics 202: Math 202
Co-requisite for Physics 203: Math 203

Emphasis is placed on problem solution and engineering applications. Recitations, demonstrated lectures, problem drill, and laboratory work are coordinated to give a working knowledge of physics. Physics 201, mechanics and heat; Physics 202, sound, magnetism, and electricity; Physics 203, optics and modern physics. Four lecture and demonstration periods and two laboratory hours a week.

POLITICAL SCIENCE

POLITICAL SCIENCE 41: (5) Government of the United States

The origin, organization, and development of federal, state, and local government in the United States will be emphasized with particular attention given to government in action.

POLITICAL SCIENCE 42: (5) PROCESSES AND PROBLEMS OF GOVERNMENT IN THE UNITED STATES

Prerequisite: Political Science 41

This course deals chiefly with the efforts made by government in the United States to solve internal public problems. It treats particularly government policies toward agriculture, labor, business, and social welfare.

POLITICAL SCIENCE 51: (5) COMPARATIVE GOVERNMENT

Prerequisite: Political Science 41

A comparative study of foreign governments, especially in Great Britain, France, the United States, and Soviet Russia.

POLITICAL SCIENCE 52: (5) INTERNATIONAL RELATIONS AND WORLD POLITICS

Prerequisite: Political Science 41

The prerequisite may be waived upon the approval of the instructor. In this course diplomatic relations, international law, power politics, and efforts to achieve world organization will be studied.

PSYCHOLOGY

PSYCHOLOGY 1: (5) GENERAL PSYCHOLOGY

This introductory course is the basis for other courses in psychology. It includes a study of the nervous system as related to the field of sensation. A survey of the higher mental functions also is made.

PSYCHOLOGY 2: (5) CHILD PSYCHOLOGY

This course includes a study of the instincts, emotions, and general tendencies of children up to the age of twelve or fourteen. Remedial measures are suggested for dealing with early tendencies that may lead to serious difficulty. Special study of at least one child will be made by every student.

PSYCHOLOGY 3: (5) SOCIAL PSYCHOLOGY

A study is made of the crowd, suggestion, the mob mind, conventionality, and custom imitation. The psychology involved in compromise, discussion, conflict, and war is especially investigated.

PSYCHOLOGY 21: (4) APPLIED BUSINESS PSYCHOLOGY

The general purpose of this course is to develop an understanding of people. Emphasis will be placed on the psychological principles which govern man's adjustment on his job and which promote successful merchandising through advertising and through selling. Studies of the motives which urge men to work and to purchase goods and services will be stressed. The practical aims will be to show how an employee may be aided in becoming adjusted to his job and how to persuade customers to purchase goods and services and be satisfied.

RELIGION

RELIGION 1: (5) SURVEY OF THE OLD TESTAMENT

A study of the content and purpose of the Old Testament.

RELIGION 2: (5) SURVEY OF THE NEW TESTAMENT

A study of the content and purpose of the New Testament.

SOCIOLOGY

SOCIOLOGY 51: (5) INTRODUCTION TO SOCIOLOGY

This course will include a survey of the field of sociology with special emphasis on the fundamental functions of society, the nature of culture, human nature, collective behavior, community life, and social control.

SOCIOLOGY 52: (5) SOCIAL PROBLEMS

The problems of population, the family, distribution of wealth and income, labor and management relationships, race relations, health, crime, juvenile delinquency, insanity and mental deficiency, social control, social planning, and democracy are investigated and studied.

SOCIOLOGY 53: (5) MARRIAGE AND THE FAMILY

This course considers the family as the basic unit of society. The following aspects are emphasized: comparative family structure, the influence of the family on personality development, trends with reference to marriage and divorce, family disorganization and the changing function of the home, the impact of war on the family, courtship and the factors determining the choice of a marriage partner, and the principles of marriage counseling. It is intended that this course shall serve the practical purpose of preparation for successful marriage and homemaking.

SOCIOLOGY 54: (3) HUMAN RELATIONS IN INDUSTRY

A course of training in the development of personality, ability to analyze problems involving human relations, and the development of good foundations for personnel relations. Actual cases of human relations problems in industry are studied with a view toward developing the technique of working with superiors, associates, and subordinates.

SPANISH

SPANISH 1-2: (5 each) BEGINNERS' CONVERSATIONAL SPANISH

Study of the fundamentals of grammar and of phonetics through the practical and conversational use of Spanish, with particular emphasis on correct pronunciation and self-expression.

SPANISH 3-4: (5 each) INTERMEDIATE CONVERSATIONAL SPANISH

Prerequisite: Spanish 1-2 or two units of high school Spanish

Review of Spanish grammar and reading of representative Spanish novels and plays.

SPANISH 21: (5) READING IN CONTEMPORARY SPANISH AND SPANISH-AMERICAN LITERATURE

Prerequisite: Spanish 4 or the equivalent

Reading and discussion of short stories, drama, short novel, by outstanding Spanish and Latin-American writers. Conducted in Spanish as much as possible. Collateral reading of two novels: one Spanish and one Latin-American. Book reports.

SPANISH 22: (5) INTRODUCTION TO SPANISH LITERARY MASTERPIECES

Prerequisite: Spanish 21 or the equivalent

Readings from the great classical writers, prose and verse. Conducted in Spanish. Collateral reading of two classical works: one Spanish and the other Latin-American.

SPANISH C 4: (5) INTERMEDIATE PRACTICAL SPANISH CONVERSATION

Prerequisite: Spanish 1, 2, and 3, or 2 years of high school Spanish

The student's self-expression in everyday Spanish is gradually increased through this course. Conducted mostly in Spanish. Collateral reading of a book dealing with the geography, history, customs, and culture of the Latin-American countries. Book report.

SPANISH C 5: (5) ADVANCED PRACTICAL SPANISH CONVERSATION

Prerequisite: Spanish C 4 or the equivalent

Informal group conversation and dramatization, based on Spanish short texts, newspaper and magazine articles. Conducted in Spanish. Collateral reading of a play or of a novel. Book report.

SPANISH C 6: (5) ADVANCED CONVERSATION FOR PROSPECTIVE TEACHERS OF SPANISH

Prerequisite: Spanish C 5 or the equivalent

Informal group conversation and discussion as for Spanish C 4 and C 5. Students will also be asked in turn to give 3 to 5 minute talks in Spanish. Conducted in Spanish. Collateral reading of two books: a play and a novel. Book reports.

ZOOLOGY

ZOOLOGY 1: (5) ANIMAL BIOLOGY

A study of the basic principles of zoology with special emphasis on man's place in the general scheme of animal life. The elements of parasitology, genetics, and animal breeding are stressed. Four lecture and two laboratory hours a week.

ZOOLOGY 41: (6) INTRODUCTORY VERTEBRATE ZOOLOGY

Not Open to Freshmen

Fundamentals of vertebrate anatomy, physiology, histology, embryology, classification, and homology. Four lecture and four laboratory hours a week.

ADULT EDUCATION

The adult education program of Charlotte College endeavors to provide for the residents of Charlotte, both young and old, courses desired for increased vocational competency and cultural development. The present program offers a variety of courses, and others will be added as the need for them arises. These classes have no educational prerequisites, and most of them give no college credit either for graduation or transfer.

MANAGEMENT PROBLEMS IN THE OPERATION OF A BUSINESS

The purpose of this course is to help the owners and managers of businesses to analyze and attempt to find logical solutions to some of their problems.

READING FOR BUSINESS AND PROFESSIONAL MEN AND WOMEN

A nine weeks course enabling the individual to obtain a firm grasp of the skills of more efficient reading. Lecture-demonstrations are combined with actual laboratory work in which each participates in tachistoscopic training, electrically accelerated reading and other modern techniques for building greater speed and comprehension in reading.

REVIEW CLASS FOR NORTH CAROLINA ENGINEERING REGISTRATION EXAMINATION

The forty-two hours of work in this course will include a review of the fundamentals of engineering.

ROSTER OF STUDENTS

ASSOCIATE OF ARTS TITLES CONFERRED

June 8, 1959

BUSINESS ADMINISTRATION

Charles Alexander Boyd, Jr.
William Robert Bullock, Jr.
Henry Carson Byrd, III
Jimmie Lee Davis
Howard Eugene Grindle
Charles Franklin Helms
Burnice Grady Jones
Sidney Caldwell Kiser
Jack Harrington McMillan
James Steadman Mahaffee, Jr.
Paul Godfrey Schachner, Jr.
William Kelly Summerville
Sidney Brian Warner
Kenneth McDonald Whitley

LIBERAL ARTS

Reginald Lee Adams
Grady Dalton Alexander
Robert Miller Allen
Theo Clois Blackwelder
Margaret Pearl Fisher
Samuel Earl Gunter
Margaret Patricia Hill
Mary Gayla Hinson
Annabelle Jarrell
George Gladstone Killough, Jr.
John Metts Lannin
George Peter Leonard
David Dockery Price
Robert Glenn Robertson
Susan Carolyn Thomas
David Ross Wilson

ENGINEERING

Edgar Porter Bickett
William Wesley Clayton
William Andrew Collier, Jr.
Fred Davis Collins, Jr.
Charles Leslie Cruse
Charles Emory Cunningham
Richard Vernon Fuller
William Hallas
David Charles Harmer
Grear Shirlock Hite
William Jay Johnson
Wayne Lee Kenimer
Jack McPhail Kirby
Van Eugene Litaker
Richard Arlen Lyles
Lowell Albert Lynch
Roger Edward Palmer
Paul Franklin Peele
William Knight Poole
William Alexander Smith
William Ulysses Thompson
Terry Scott Wilson

PRE-MEDICINE

Melton Smith Birmingham, Jr.

DISTRIBUTION (Terminal)

William Warren Bondurant
William Purdy Calvert
Kanela Andrew Maydanis

ELECTRICAL TECHNOLOGY (Terminal)

Leonard Maxwell Howell
Billy Joe Moser
Thomas Joseph Reddeck, III

MECHANICAL TECHNOLOGY (Terminal)

Albert Jerome Garmon, Jr.
William Martin Hill
Albert Osborn McEntire

SOPHOMORES, 1958-1959

Abernathy, Larry Grier
Adams, Reginald Lee
Alexander, Grady Dalton
Alexander, James Bigham
Allen, Bruce Bozarth, Jr.
Allen, Robert Miller
Anderson, John Warner
Avakian, Susan G.
Bakis, Demetrics A.
Barnett, James Anthony
Bass, Thad Bernard
Baucom, Thomas Francis
Beaty, Thomas Vernon
Best, Edward LeRoy
Bickett, Edgar Porter
Birmingham, Melton Smith, Jr.
Blackwelder, Larry Wayne
Blackwelder, Theo Clois
Blankenship, Malcolm Brittian
Bohannon, David Louis, Jr.
Bondurant, William Warren
Boyd, Charles Alexander, Jr.
Bronsink, Robert
Brown, Leighton Pegram
Bullock, William Robert, Jr.
Byrd, Henry Carson, III
Calvert, William Purdy
Campbell, Charles Lester
Chastain, Joel Ernest
Cheney, Charles Vincent
Cherry, Albert Franklin, Jr.
Clark, James Craig, Jr.
Clark, Richard Brown
Collier, William Andrew, Jr.
Collins, Franklin LeRoy
Collins, Fred Davis, Jr.
Combs, Jack Eugene
Crenshaw, James Lewis
Crocker, Earl Reid, Jr.
Crockett, John Wayne
Crockford, William Morrison
Cruse, Charles Leslie
Cunningham, Charles Emory
Currie, Avery Madison
Dale, Daniel Washburn
Davis, Jimmie Lee
Deadmon, Charles Maxwell
Drum, Dewey Lee
Easterling, Ralph LeGette
Entrekin, James Howell
Erhart, William Stacy
Fisher, Margaret Pearl
Fodel, Charles John
Fox, Ransom Cloud, Jr.
Freeman, James Louis
Fuller, Richard Vernon
Garmon, Albert Jerome, Jr.
Garmon, David Edward
Giles, Noah Yates, Jr.
Gilland, Richard Rozzelle
Griffie, Lloyd Frederick
Griffin, Thomas Edward
Grindle, Howard Eugene
Guest, Wade Dewey
Gulley, James Monroe
Gunter, Samuel Earl
Hailey, Howard Lee
Hallas, William
Hammons, Charles William
Haney, Joe Frank
Harmer, David Charles
Harris, Donald Thomas
Hatcher, John Cole
Helms, Charlie Lee
Helms, Conrad Claude, Jr.
Helms, Gerald Clyde
Helms, Jack Donald
Helms, Lucille Wilson
Herrera, Mary Austin
Hice, Clyde Davis
Hill, Margaret Patricia
Hill, William Martin
Hinkel, Emory Ellsworth, Jr.
Hinson, Mary Gayla
Holder, Rufus Ernest, Jr.
Honess, Clifford Brian
Horne, Hubert Allan, Jr.
Hough, Alfred LeRoy
Howell, Leonard Maxwell
Hudson, Blake P.
Ingold, Drusilla Stoker
Ingold, Sara Dry
Jarrell, Annabelle
Jetton, Roger Aaron
Johnson, Betty Jane
Johnson, William Jay
Jones, Burnice Grady
Kaul, David Arnold
Kellams, Harold Donald
Kenimer, Wayne Lee
Key, Edwin Scott
Killough, George Gladstone, Jr.
Kirby, Jack McPhail
Kirby, John McKinley
Kiser, Sidney Caldwell
Lamkin, Ronald Wade
Lannin, John Metts
Leonard, George Peter
Litaker, Van Eugene
Little, David Nixon
Long, Harold Lee
Long, Onita Lee
Lowman, Frank Earl
Lyles, Richard Arlen
Lynch, Fulton Lee
Lynch, Lowell Albert
McEntire, Albert Osborn
McKee, William David
McMillan, Jack Harrington
Mahaffee, James Steadman, Jr.
Martin, John Wiley
Maydanis, Kanela Andrew

SOPHOMORES, 1958-1959

Miller, Ronald Clem
Miller, William Thomas
Moore, Sarah Elizabeth
Morris, William Rufus
Moser, Billy Joe
Moss, Dyer Spring, Jr.
Mullen, Jerry Ray
Palmer, Roger Edward
Pappas, Mike Thomas
Parton, Randy Gene
Peele, Paul Franklin
Peterson, Bernard
Phillips, Raymond Woodrow
Phillips, William Frank, Jr.
Pigg, Stephen Wayne
Poole, William Davis
Poole, William Knight
Prevatte, Ernest Marrilynne
Price, David Dockery
Quillen, Laurin Elbert
Reddeck, Thomas Joseph, III
Reynolds, Bobby Ed
Riley, William Louis
Ritch, Fred Wade
Robertson, Robert Glenn
Rose, John Edwin, Jr.
Schachner, Paul Godfrey, Jr.
Schrader, Robert Emanuel
Secker, Daniel Fishburne
Sims, David King
Sims, William Calvin
Sinclair, Marcus Byron, Jr.
Smith, Ben Wofford
Smith, Samuel Hugo, Jr.
Smith, William Alexander
Snyder, Glenn Hinson
Steele, Steve Arthur
Steen, Robert Buise
Stewart, Floyd Grant
Stewart, Jack
Stiles, Richard Mack
Teeter, James Cecil
Thomas, Susan Carolyn
Thompson, Grady Odell
Thompson, William Ulysses
Trull, David Cyrus
Turner, Frank Blair
Tyson, Aubrey Forbes
Wallace, Robert Lee
Warner, George Harris
Warner, Sidney Brian
Watson, Harrison Bradford
Welch, John Wilson
Wellmon, Wayne Kenneth
West, Tommy Bradford
Whitley, Kenneth McDonald
Widenhouse, Richard Lee
Wilkinson, Mary Emily
Williams, Donald Durham
Williams, James Larry
Wilson, David Ross
Wilson, Terry Scott
Winchester, Albert Douglas
Woods, Edward Lafayette
Wyatt, Charles Bogard
Young, Edwin Thomas
Youngblood, John Frank

FRESHMEN, 1958-1959

Abernathy, John Edward
Abernethy, Robert Donald
Adkins, James Reid
Agnew, William Gilbert
Ahlgren, Gary Gordon
Alexander, Teddy Frank
Alexander, William Joel
Allen, Glenn Cornell
Allen, Harvey Sossoman
Allen, Julian Emmett
Allen, Wayne Harold
Arumi, Francisco
Austin, Conrad Nelson
Austin, Donald Wayne
Austin, Ernest Hampton, Jr.
Austin, Fred Lee, Jr.
Austin, James Reginald
Austin, Robert Glenn, Jr.
Baker, Bobby Eugene
Baker, James Farris
Barlowe, Daniel Keith
Barnes, Thomas Chaunce
Barnette, Richard M.
Barr, Robert Francis
Barrett, Richard Donald
Baucom, Keith Brooks
Beamguard, Walter Larry
Beatty, Dorothy Blanche
Bell, Gary Lynn
Bell, John Henry, Jr.
Bell, John Samuel
Benson, Charles Robert
Berryhill, Robert William
Biles, Patricia Wellmon
Biltcliffe, Edwin, III
Bishop, Effie Pool
Bivens, Douglas Donald, Jr.
Bivens, Roy Emmette
Black, Ralph Clark
Blackwelder, Robert Lee
Blakely, Allan Russell
Blucher, Stephen Judd
Bolick, Albert Medlin
Booth, Trula Sutton
Bostic, Jimmie Drew
Bowden, Fred Lewis

FRESHMEN, 1958-1959

Bowen, Charlotte Ann
Bowers, Harry Tate
Boyles, James Cornelius
Boysen, Irene Margaret
Brackett, Ross Otis, Jr.
Brantley, Charles Eugene
Brewer, Gary Lee
Bridges, Robert Louis
Brinkley, Homer Edwin
Brooks, Thornton Naylor
Broome, Johnny Venoid
Brown, Franklin Roosevelt
Brown, Gerald Lee
Brown, James Edward
Brown, James Marvin
Buchanan, Clyde Henry
Buckey, Richard Daniel
Bullard, Alfred Hugh
Bullard, Jerry Thomas
Bullard, Shelby Owen
Burke, James Franklin
Burley, Paul Strom
Burns, Patricia Ann
Burns, Ruby Hildreth
Bush, Danny Elward
Byers, Lorna Jean
Byrd, William Hester
Byrum, William Taylor
Cadieu, Eugene Myers
Caldwell, Milford Douglas
Cann, William Everett
Carden, Billy Charles
Carlton, Gary Eldon
Carpenter, George Falls, Jr.
Carrigan, Dennis Daniel
Carriker, William Ray
Carson, Melvin Douglas
Cartee, Walter Lee
Carter, Donald Lee
Cashion, Robert Edward
Caudle, Charles Fredrick
Chappell, Russell Ernest
Chesser, Dean Franklin
Christenbury, Dwight Olin
Clark, Tony Franklin
Cobb, Edwin Hastings
Cobb, John Edward
Cobb, William Joseph
Cochrane, William Porter
Cockrell, Betty Lee
Collins, Daniel Curtis
Collins, Francis Wiley
Collins, James Miller
Combs, Helen Kay
Connell, Michael Davis
Conner, Charles Wayne
Conner, William Franklin
Connolly, Albert Raymond
Connor, Lee David
Cook, Charles Harold
Corbett, Kenneth Franklin
Cornelius, Thomas Brandon
Cornelius, Tommy Barnes
Craver, James Henry
Crawford, James Thomas, Jr.
Crowell, William Spencer
Crump, Hugh Gordon
Cullingford, John Kenneth
Dahir, Sabir H. M.
Darden, Franklin Miles, Jr.
Davis, Gene Everette
Davis, Hugh Samson
Davis, James Alexander
Davis, William Pike
Dawkins, William Ellis
Dellinger, Joe Billy
Dellinger, Thomas Eugene
Dickerson, Walter Thomas
Dinkins, Cecil Albright
Drinkard, David Scott
Dula, Paul Jones
Dulin, Larry Lucian
Dunlap, James Otho, Jr.
Dunlap, Samuel Henry, III
Earnhardt, Richard Maurice
Eason, Thomas Guy, Jr.
Edge, Philip Everett
Edwards, Archie Hal
Edwards, John Coke, Jr.
Efird, John Greer
Elmore, Richard Alan
Elmore, Walter Roland
Erwin, Esther Rose
Eury, James Robert, Jr.
Evans, Dalma Clay
Faires, Evelyn
Faulkenberry, Johnny Albert
Feindel, George Paul, Jr.
Fish, Otho Alden, Jr.
Fitzgerald, Bernice Hubert
Flowers, Albertus Richard
Flowers, Ernest Edward, Jr.
Floyd, Walter Hunter
Forbis, William Wayne
Foxx, Jimmie Rex
Francis, Anthony Floyd
Frantz, Edward Paul
Freeman, George William
Friddle, David Clinton
Funderburk, Edward Ashley
Furr, Henry Bryan
Gathings, Robert Milton
George, Mary Kay
Gerrard, James Gerald
Gibson, Robert Benjamen
Gilbert, Russell Clifford
Gilbert, Violet Madlyn
Giles, Olin Sylvester, Jr.
Gillespie, Jerry Grant
Glenn, Walter Whitworth
Godfrey, James David
Godzinski, Anthony John

FRESHMEN, 1958-1959

Goodman, Allan Jay
Graham, Charles William
Graham, John Dermont
Grass, M. W., Jr.
Gray, Walter Parks
Green, Bruce Carlton
Griehsbach, David Rudolph Hermann
Grier, Preston Douglas
Griffin, Donald Elgie
Grubbs, Robert James
Gudger, Joseph Whitson, Jr.
Guest, James Carl
Hager, William Edward
Haigler, James Washington
Hall, Jack
Hampton, Stephen Thomas
Hardison, Joseph W.
Hargett, Wyatt Price, Jr.
Harrill, Larry Bell
Harrington, Wade
Harris, Harold David
Harris, John Edward
Harris, Tony Carl
Harris, William Laureston
Hartis, Jerry Edmond
Hartis, Robert Lane
Harvey, Reggie Clinton
Harwell, Willie Victor, Jr.
Hefelfinger, David Charles
Helms, Eric Timothy
Helms, Lloyd Warner
Helms, Richard Dean
Helms, Thomas Floyd, Jr.
Helms, William Phil
Henkel, Charles Levelle
Herrin, Albert Franklin, Jr.
Hicks, Noah Max
Hilton, Mary Angeline
Hince, Francis Anthony
Hinson, Kenneth Wesley
Holland, Robert Edward
Holtzclaw, William Merle
Honey, Jerry Stephen
Honeycutt, Sammy Carrol
Hood, Harold Dean
Hoover, Clinton Wilson
Hoover, Daniel Curran
Hoover, Larry Allan
Hosse, James Bonner
Houston, Herman Vance, Jr.
Hovis, James Perry
Howell, Larry Glenn
Hoyle, Walter Edward
Huckabee, James William
Hucks, Charles Calvin
Hudman, Nita Rochel
Huffman, James Arnold
Huffstetler, Robert Keith
Hults, Arthur Barry
Hunter, Caryl Blanche
Huntley, Billie Frances
Idol, Gary Eugene
Ingold, James Donald
Irvin, Larry Eugene, Sr.
Jackson, Donald Bryant
Jackson, Mildred Josephine
Jaffre, Edward Alan
James, Esca Alton
Jarrell, Charlie Walker
Jarvis, James Vernon
Jenkins, Fred Arnold
Johnson, Dewey Lester
Johnston, Reid Selby
Jones, Wayne Charlesworth
Joseph, Judith Rose
Josephs, James William
Kaperonis, Theodore Paul
Katsaris, Mary George
Keller, Howard Nelson
Kendall, Rell Brown
Kiker, Joe McCollum
Kilgo, Paul Fleming
Kimbell, Charles Arthur
Kimsey, Dale Mason
King, Joseph Eugene
Kirby, Kenneth Alexander, Jr.
Kirkley, Charles Paul
Kiser, William Henry
Kretschmer, Frank August
Lambert, Russell Taylor
LaRoach, James Russell
Lau, Fred Otto
Laye, Donald Franklin
Leggett, Dorothy Waddell
Lever, Thomas Horace
Lewis, Arlin Duncan
Leza, Nora
Linker, Walter Stephen
Litaker, Glenn Olen
Little, Homer Glenn, Jr.
Little, Wayne Arthur
Little, William Harold, Jr.
Lockhart, Robert Spear, III
Lohr, Philip Markus
Lord, Charles David
Loveless, Geraldine Shinn
Lowe, Billy Lee
Lowery, Charles Kenneth
Lyles, Lewis Robert
McAleer, James Charles
McAllister, Diane Lyles
McAnulty, Douglas Delano
McCall, Lawrence Julius
McCallum, David Franklin
McClure, Deland Rae
McDaniel, Donald Edward
McGee, Connie Mac
McIntosh, Maurice Daniel
McLean, Lathan Gilmer
McLeod, Eunice
McLester, William Raymond
McManus, John Calvin

FRESHMEN, 1958-1959

McManus, John Paul
McMillan, Donald Francis
McNair, John David
McQuay, Jess Blackwelder
McRorie, Peggy Carriker
McWhorter, Billy Glenn
MacIntosh, James Pearson
Mackinnon, Howard Arthur
Marcotte, Charles Edwin
Marquette, Michael Sheridan
Marsh, Desmond Francis
Marwitz, Charles Anthony
Massey, Bruce Jenkins
Melton, Thomas Morrison
Merrell, Gail Deanna
Merritt, Jan Anthony
Merritt, Jerry Baxter
Messina, Jack Peter
Miller, Donald Smathers
Miller, Rex Franklin, Jr.
Miller, Richard Maurice
Million, John
Mills, Bobby Gene
Millsaps, Harold Gilbert
Mims, Herman Dewitt
Mitchell, Edward Lee
Montague, David Owen
Moore, Larry Thomas
Moore, Martha Louise
Morgan, Boyd Hoyle
Morgan, Jane Elma
Morrell, Robert Fuller
Morris, John Philmore
Morris, Richard Allen
Morris, Robert Ellis
Moser, Victor Dillon
Mosley, Bert Wayne
Moss, Robert Everett
Murdoch, Robert Bruce, Jr.
Myers, Clarence Graham, Jr.
Nail, Richard Duke
Niven, Howard Archie, Jr.
Nivens, John Jackson
Nussman, Bruce Love
Ogden, Charles Howard
Osborne, Charles Allen
Owens, Napoleon Jerome, Jr.
Paige, Bobbie Ray
Palmer, Aubrey Lomax, Jr.
Pappamihiel, Dorothy
Pappamihiel, Steve Constantine
Parker, Norris Woodrow
Parnell, James Lee
Patterson, Joel Hampton
Paulin, Robert James
Payseur, Sandra Kay
Pender, John William
Pender, Shaw Exum, Jr.
Penegar, Norman Oscar
Petty, Charles Emory, Jr.
Petty, Maxwell Eugene
Phillips, Nancy Carolyn
Phillips, Thomas Lee
Phillips, William Edwin
Pierce, Myradan
Poovey, George Williams
Poplin, Jerry Melvin
Poston, Joseph Francis, Jr.
Potter, James Thomson, Jr.
Privette, Roger Baker
Puckett, Henry Cravin
Purser, Michael Gene
Purser, Rodney Lamar
Queen, James Homer
Query, Edward Neil
Query, William Kress
Rabb, Larry Gene
Ramey, Paul Edward
Ramey, Thomas Edmond
Ramsey, Frank Preston, Jr.
Ramsey, Wade Irvin, Jr.
Randall, Kenneth Russell
Rayburn, Hansel Lewis, Jr.
Raynes, Joseph Marion
Resler, Raymond LeRoy
Reynolds, Lyman Ray
Rhea, Gail
Rich, Jerry Clarence
Richards, William Barton
Richardson, John Curtis
Riggs, William Felix
Riley, James Robert
Rimmer, James Robert
Roberts, Callie Whitener
Robeson, Edward William
Roe, Walter Lee, Jr.
Rogers, Nolan Cornelius
Roseman, Billy Forney
Ross, Edwin Gallant
Rowell, Jimmie Fredrick
Rutledge, Thomas Wilson
Sadler, Robert Parks
Sanders, Richard Eugene
Schenck, Beverly Diane
Schermer, Floyd Carl
Scroggs, John Tatum
Scruggs, Harold Dean
Seaman, Lillian Pearl
Secrest, Claude Davis
Settlemyre, Guy Otis, Jr.
Settlemyre, James Joseph
Settlemyre, William Loyd
Sexton, James Harvey
Shankle, Judith Marshall
Shivar, Douglas LeGrand
Shore, Gerald Lee
Short, Robert Wayne
Shorter, Shelton Legrand
Shouse, Phillip Lee
Sigmon, Carl Lanier
Sigmon, William Ira
Silber, Edward Joseph

FRESHMEN, 1958-1959

Sills, Billy James
Simon, John Flynn
Simpson, Charles Douglas
Simpson, Mott Edmond
Simpson, William Dean
Singleton, Hugh Edward
Sizemore, Larry Eugene
Skaff, Fred
Skinner, Richard Thomas, Jr.
Skipper, James Linley
Smith, Billy Earl
Smith, Dorothy Barrett
Smith, Larry Douglas
Smith, Miller Willis
Smith, Robert Hathaway
Snyder, Thomas Bryan
Soiset, Bill Austin
Steed, William Howard
Stephens, Leland Kenneth
Stewart, James Carl
Strathdee, Jean Grier
Strawn, Donald Richard
Stringer, Claude Lisbon, Jr.
Stutts, Robert Lee, Jr.
Sutton, Johnny Samuel
Sweitzer, Charles Leroy
Szilagyi, Gabor Joseph
Talley, Donald Flynn
Tankersley, Joe Jordan
Teffeteller, Larry Benford
Thomas, Jere Manley, Jr.
Thomas, Robert Joseph
Thompson, Robert LeGrande
Thornton, Mary Lou
Timson, Frank W. C., Jr.
Trexler, Bernard Rudolph, Jr.
Trexler, John Walter
Truax, David Muir
Tucker, James Thomas, Jr.
Tucker, Robert Reynolds
Vanderburg, Archie Clayton
Vaughn, John Correll
Vaughn, Larry Neal
Vinson, Ed LaRue
Walker, Robert Lee
Warren, Charles Kenneth
Watson, Hubert Edwin
Watts, Manning Edward
Watts, Ted
Weir, James Crowder
Welch, Charles Douglas
Welch, Sterling Elliott
Wentz, Amzie Reid
Wesson, Fred Eugene, Jr.
White, Robert Andrew
Williams, Enoch Roland
Williams, Gerald Allen
Williams, Jerry Michael
Williams, Lawrence Reed
Williams, Milton Carl
Williams, Raymond Woodrow, Jr.
Williams, Robert Clarke
Wilson, Jerry Charles
Wilson, Robert Edwin, Jr.
Withers, Mickey Joel
Wohlwend, George Richard
Wood, John William
Yandle, John Morrison
Yates, Robert Clayton
Young, John Albert
Young, Ray Everett
Yount, Roland Lee
Zuk, Frank

UNCLASSIFIED COLLEGE GRADE 1958-1959

Biles, Paul Everette
Brandon, Sandra Lee
Caddell, David Harry
Carmichael, Jane Anne
Carnes, Ransome Bayes
Carson, Benjamin Brandon
Cash, Allan Heath, Jr.
Davis, Benjamin Franklin
Denton, Donald Hemphill, Jr.
Dodge, Margot Jan
Eason, Lemma Croker
Edge, Samuel Bourne
Fogelson, Howard Stephen
Fortson, Willis Coleman
Garner, James Franklin
Hall, Jimmy Carpenter
Holder, Harry Lane
Huckaby, Fred Ben
Huffman, John Wesley
Huntley, Rex Reynolds
Johnson, Theodore Robert
Kearns, Robert Douglas
Knight, Cecil Ashcraft, Jr.
Lineberger, Robert Odell
Livingston, Dan Wilson
Lyerly, Ned Thomas
McCathern, Julian Oglethorpe
McCathern, Robert Eugene, Jr.
Miller, Boyce Edward, Jr.
Morris, Sally Yvonne
Mullinax, David Eddy
Murphy, Charles Linder
Phillips, Don Hugh
Pue, Arthur
Sharpe, John Avery
Shaw, Ward Bruce
Smith, Stuart Harrington
Warren, Thomas Henry
Willard, Henry Dotterer

SUMMARY OF STUDENT ENROLLMENT FOR 1958-1959

Sophomores		189
Freshmen		485
Unclassified College Grade		39
Auditors		36
Summer Session		292
Adult Education		113
Adult Reading Improvement	22	
Management Problems in the Operation of a Business	24	
Review Class for North Carolina Engineering Registration Examination	67	
	113	
Total Enrollment		1154

HONORS AND AWARDS 1958-1959

ALTRUSA AWARD
Charles Robert Benson

ALUMNI SCHOLARSHIP
Archie Hal Edwards

AMERICAN BUSINESS WOMEN'S ASSOCIATION SCHOLARSHIP
Mary Angeline Hilton

BETA SIGMA PHI SCHOLARSHIP FOR 1958-1959
Judith Rose Joseph

CHARLOTTE ASSOCIATION OF INSURANCE WOMEN'S AWARD
Gail Deanna Merrell

CHARLOTTE AUTOMOTIVE WHOLESALERS' AWARDS
Franklin Alexander Jones, Jr.
Judith Rose Joseph
Jerry Clarence Rich
John Morrison Yandle

CHARLOTTE PANHELLENIC CONGRESS AWARD
Helen Kay Combs

CHEMISTRY ACHIEVEMENT AWARD
Noah Max Hicks

COMMENCEMENT MARSHALS
Edward Joseph Silber, Chief
Archie Hal Edwards
Olin Sylvester Giles, Jr.
Ronald Wade Lamkin
Gail Deanna Merrell
Beverly Dianne Schenck

BONNIE E. CONE AWARD
Edward Joseph Silber

MATHEMATICS ACHIEVEMENT AWARD
Noah Max Hicks

MECKLENBURG CHAPTER, DAR AWARD 1958-1959
Mary Angeline Hilton

BILL MITCHELL AWARDS
Fred Davis Collins, Jr.
Robert Glenn Robertson

MOREHEAD SCHOLARSHIP
Roger Edward Palmer

L. G. MUMAW ENGINEERING SCHOLARSHIP
Charles Douglas Simpson

L. G. MUMAW SCHOLARSHIP
Charles Anthony Marwitz

NATIONAL ASSOCIATION OF ACCOUNTANTS SCHOLARSHIP
Amzie Reid Wentz

OIL INDUSTRIES AWARDS
Judith Rose Joseph
Jerry Clarence Rich
John Morrison Yandle

PHYSICS ACHIEVEMENT AWARD
Richard Vernon Fuller

PROFESSIONAL ENGINEERS' AWARDS
Olin Sylvester Giles, Jr.
Larry Benford Teffeteller

SIGMA LAMBDA CHI AWARD
Franklin Alexander Jones, Jr.

SIGMA TAU SIGMA: SUMMA CUM LAUDE AWARD CERTIFICATES
Charles Alexander Boyd, Jr.
Fred Davis Collins, Jr.
Jack Harrington McMillan

B. O. VANNORT AWARD
James Joseph Settlemyre

THE NORTH CAROLINA STATE COLLEGE PROGRAM

In the fall of 1958, the School of Engineering of North Carolina State College established a Charlotte Department, using the facilities of Charlotte College. This program is a reality because of the excellent cooperative relationship existing between the two colleges.

The main purpose of the North Carolina State program is to offer Junior, Senior, and Graduate-level Engineering courses that can advance the student toward a degree. Courses carry exactly the same credit as those offered at Raleigh. All courses are offered in the evening on a semester basis.

Most of the courses offered are common to several Engineering Curriculums including Mechanical, Electrical, and Civil. A total of fourteen courses were taught in the 1958-59 year with nearly 140 enrollments.

Instructors, mostly drawn from the large number of engineers employed in local industry, include:

C. J. Beers	Douglas Aircraft
R. N. Hooker	Douglas Aircraft
J. D. Alexander	Douglas Aircraft
R. O. Schwantes	Douglas Aircraft
M. R. Livingston	Celanese Corporation
D. W. Meyers	Celanese Corporation
A. F. Brinsmade	Celanese Corporation
E. B. Finch	Celanese Corporation
W. P. Taylor	J. N. Pease
L. W. Long	Duke Power
C. R. Mullins	F. N. Thompson

Herbert A. Lynch is head of the Charlotte Department and maintains an office at Charlotte College.

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CHARLOTTE COLLEGE

Charlotte, North Carolina

CATALOG 1960-1961

CHARLOTTE COLLEGE

Charlotte, North Carolina

CATALOG 1960-1961

1949

A Two-Year Junior College
Accredited by
The Southern Association of
Colleges and Secondary
Schools

Member of

Southern Association of
Junior Colleges

American Association of
Junior Colleges

1960

SEPTEMBER

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1961

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CALENDAR OF EVENTS 1960-1961

FALL QUARTER, 1960

September 6-9	Advanced Registration of Returning Students
September 14-16	Orientation of New Students
September 19	Registration of New Students
September 20	Registration of Other Students
September 21	First Day of Classes
November 23-27	Thanksgiving Recess
December 5-9	Registration of New and Returning Students for Winter Quarter, 1961
December 13	Last Day of Classes
December 14-16	Final Examinations
December 17	Christmas Vacation

WINTER QUARTER, 1961

December 16	Orientation of New Students
January 2	Registration of Other Students
January 3	First Day of Classes
March 6-10	Advanced Registration of New and Returning Students for Spring Quarter, 1961
March 13	Last Day of Classes
March 14-16	Final Examinations

SPRING QUARTER, 1961

March 16	Orientation of New Students
March 17	Registration of Other Students
March 20	First Day of Classes
March 31-April 3	Easter Vacation
May 22-26	Advanced Registration of New and Returning Students for First Summer Term, 1961
May 30	Last Day of Classes
May 31, June 1, 2	Final Examinations
June 4, 5	Graduation Exercises

SUMMER SESSION, 1961

First Summer Term

June 8	Registration
June 9	First Day of Classes
July 4	Holiday for Independence Day
July 14	Last Day of Classes
July 17-18	Final Examinations

Second Summer Term

July 19	Registration
July 20	First Day of Classes
August 23	Last Day of Classes
August 24-25	Final Examinations

ADMINISTRATIVE ROSTER FOR 1959-60

BOARD OF TRUSTEES OF CHARLOTTE COMMUNITY COLLEGE SYSTEM

APPOINTED MAY 12, 1958

J. Murrey Atkins, *Chairman*

APPOINTED BY THE GOVERNOR

	Length of Term
Thomas M. Belk	2 years
Cecil Prince—Deceased May 24, 1960	2 years
Sheldon P. Smith	2 years
Dr. Thomas Watkins, Sr.	2 years

APPOINTED BY THE CHARLOTTE CITY COUNCIL

J. Murrey Atkins	4 years
John A. McRae	4 years

APPOINTED BY THE MECKLENBURG COUNTY COMMISSIONERS

Dr. E. A. Beaty	4 years
R. L. Taylor	4 years

APPOINTED BY THE CHARLOTTE CITY BOARD OF EDUCATION

John Paul Lucas	6 years
Addison H. Reese	6 years

APPOINTED BY THE MECKLENBURG COUNTY SCHOOL BOARD

Linn D. Garibaldi	6 years
Oliver Rowe	6 years

Dr. E. H. Garinger, *Secretary*
Bonnie E. Cone, *Treasurer*

OFFICERS OF ADMINISTRATION

BONNIE E. CONE	*Director*
W. L. YARBROUGH	*Business Manager*
HARPER HIGGINS	*Registrar*
MILDRED ENGLISH	*Director of Student Personnel*
MRS. JAMES M. KNOX	*Secretary*
MRS. HAZEL B. MULLINS	*Secretary*
MRS. RICHARD J. SIMS	*Secretary*

FACULTY 1959-1960

Adams, William S. .... *Psychology*
B.S., Clemson College
M.Ed., University of North Carolina

Baker, L. Evelyn .... *English*
A.B., Winthrop College
A.M., Duke University

Ballance, Gilbert .... *Radio Workshop*
A.B., University of North Carolina
M.Ed., University of North Carolina

Barton, Easley B. .... *Fields and Circuits*
B.E.E., Clemson College

Black, Cleta .... *English*
B.S., Appalachian State Teachers College

Branshaw, Wayne L. .... *Mechanical Technology*
B.S., Stout State Teachers College

Carson, Benjamin .... *English*
B.A., Catawba College

Chrisman, Mason R. .... *Civil Technology*
B.S.C.E., North Carolina State College

Church, Wayne C. .... *Mathematics*
B.S., M.A., Appalachian State Teachers College
Ed.D., Indiana University

Coble, Bobbie J. .... *Mathematics*
A.B., Catawba College

Darholt, Jerome O. .... *Engineering Graphics,*
Mechanical Technology
B.M.E., North Carolina State College

Denny, Mary R. .... *English*
A.B., Salem College
A.M., Duke University

Fore, Mary S. .... *English*
A.B., Winthrop College
A.M., Columbia University

Freeman, Gordon Q. .... *English*
A.B., Queens College
A.M., Duke University

Freeman, Thomas B. .... *English*
A.B., Wofford College
M.A., Appalachian State Teachers College

Frye, Barbara H. .... *English*
A.B., King College
M.A., George Peabody College for Teachers

Funderburk, William H. .... *Surveying*
B.C.E., North Carolina State College

Garr, Fielding S. .... *Chemistry*
B.S., University of Virginia

Gardner, Ernest A., Jr. .... *Electrical Technology*

Goodrum, Cloyd S., Jr. .... *Mathematics*
B.A.E.E., Rensselaer Polytechnic Institute
A.M., University of North Carolina

Granger, Glynn O. .... *Public Speaking*
B.S., East Texas Baptist College

GREEN, PHILIP J. — *History*
A.B., M.A., University of Alabama
Ph.D., University of Chicago

GYLES, RONALD C. — *Electrical Technology*
B.E.E., B.S., M.Ed., North Carolina State College

HAMRICK, BYRON A., JR. — *Engineering Graphics*
B.S.H.A.C., North Carolina State College

HARRISON, JANE E. — *Accounting*
A.B., Randolph-Macon College
M.B.A., Indiana University

HECHENBLEIKNER, HERBERT — *Botany, Geography, Geology and Zoology*
A.B., University of North Carolina
A.M., Ph.D., Harvard University

HINSON, KATHERINE — *English*
A.B., M.A., East Carolina College

HOYLE, FRANCES B. — *Spanish*
A.B., Woman's College, University of North Carolina
A.M., New York University

LAWRENCE, MARTHA E. — *Mathematics*
B.A., Winthrop College
M.A., Duke University

LAWS, THELMA — *English*
A.B., Duke University

MCENTIRE, ALBERT O. — *Mechanical Technology*
A.A., Charlotte College

MCKINNON, WALTER H. — *Fields and Circuits*
B.E.E., North Carolina State College

MACY, PIERRE — *French and Spanish*
A.B., University of Nancy
M.A., University of Dijon
Ph.D., University of Paris

MARKHAM, ELEANOR M. — *Mathematics*
A.B., A.M., Duke University

MARTIN, LONNIE W. — *Electrical Technology*
B.E.E., Georgia Institute of Technology

MARSHBURN, LEROY D., JR. — *Mechanical Technology*
B.S., University of North Carolina

MULLIS, CAROL B. — *Electrical Technology*
B.E.E., North Carolina State College

NORMAN, JOHN H. — *Chemistry*
A.B., Erskine College
M.A., University of North Carolina

PLOGER, VERNE R. — *Economics and History*
B.G.E., M.A., University of Omaha

PLYBON, LOUISE M. — *Librarian*
B.S., Appalachian State Teachers College
B.S.L.S., M.S.L.S., George Peabody College for Teachers

POTTER, RAMONA F. — *English*
A.B., Ripon College

POTTS, JAMES M. — *Mathematics and Physics*
A.A., Mars Hill College
B.S.M.E., M.S.M.E., North Carolina State College

RANEY, RUTH L.——*Distribution*
B.S., Ohio University
M.L., University of Pittsburgh

REDDECK, THOMAS J., III——*Electrical Technology*
A.A., Charlotte College

RIGGSBEE, GAYLE H.——*Machine Shop*
A.S., Southern Technical Institute

ROGERS, HORTENSE——*Mathematics*
A.B., Winthrop College
M.A., Columbia University

RUSSELL, LUTHER O., JR.——*Engineering Graphics*
B.S.M.E., Duke University

SCHERGER, MOZELLE S.——*Librarian*
B.S., Appalachian State Teachers College
B.S.L.S., University of North Carolina

SCOGGIN, WILLIAM——*Electrical Technology*

SCOTT, DEWITT——*Journalism*
A.B., University of Florida
M.S., Boston University

SHEPHERD, DAVID L.——*College Reading*
B.S., State Teachers College, Towson, Maryland
M.A., Ed.D., Teachers College, Columbia University

SINCLAIR, KENNETH C.——*Mechanical Technology*
B.S., M.A., Western Kentucky State College

SLATT, ALLAN T.——*Mechanical Technology*
B.S.M.E., Purdue University

SMITH, JOHN F.——*Mathematics*
A.B., M.A., Furman University

STYERS, JOSEPH D., JR.——*Electrical Technology*
B.E.E., North Carolina State College

SWOFFORD, CLYDE——*Mathematics*
A.B., Wake Forest College

THORNE, ALBERT M.——*Chemistry*
B.S., Leigh University

THORNTON, SAM M.——*Psychology*
B.A., University of Dayton
M.A., Ohio University

TINKHAM, MARK F.——*Physics*
A.B., M.Ed., University of North Carolina

TODD, EUGENE——*Coach*
B. S., Clemson College
M.Ed., University of North Carolnia

WATSON, FLORA MAE——*Mathematics*
A.B., Winthrop College

WHEELOCK, JOHN G.——*Business Law and Economics*
L.L.B., Northwestern University Law School

WHITENER, JOSEPH B.——*Chemistry, Mathematics and Physics*
A.B., M.A., Trinity College (Duke University)

WINNINGHAM, EDYTH F.——*History and Political Science*
A.B., University of North Dakota
A.M., University of North Carolina

WOODRUFF, HARVEY L.——*Choral Director*
B.S., New York University
M.A., Teachers College, Columbia University

COMMITTEES OF THE FACULTY

ADMINISTRATIVE

Miss Cone, *Chairman*

Mr. Darholt
Miss Denny
Miss English
Mr. Higgins
Mrs. Winningham
Mr. Yarbrough

ADMISSIONS

Mr. Higgins, *Chairman*

Miss Cone
Mr. Darholt
Miss English
Miss Fore
Mr. Yarbrough

ALUMNI

Mrs. Hoyle, *Chairman*

Miss Denny
Dr. Green
Miss Markham
Mr. Norman
Mr. Tinkham
Mrs. Winningham

CATALOG COMMITTEE

Mr. Higgins, *Chairman*

Miss Fore
Mr. Norman

COMMENCEMENT

Miss Denny, *Chairman*
Mr. Tinkham, *Co-Chairman*

Miss Baker
Mr. Higgins
Mrs. Hoyle
Miss Lawrence
Dr. Macy
Mr. Woodruff

CONCERTS, LECTURES, AND PROGRAMS

Dr. Macy, *Chairman*

Mr. Bernstein
Miss English
Dr. Green
Mr. Tinkham
Mrs. Winningham
Mr. Woodruff

COUNSELING

Miss English, *Chairman*
Mr. Tinkham, *Co-Chairman*

Miss Baker
Mr. Bernstein
Mr. Darholt
Miss Denny
Miss Fore
Mr. Goodrum
Dr. Green
Dr. Hechenbleikner
Mr. Higgins
Mrs. Hoyle
Miss Lawrence
Dr. Macy
Miss Markham
Mr. Norman
Mr. Ploger
Mr. Whitener
Mrs. Winningham

CURRICULUM

Mr. Norman, *Chairman*

- Mr. Barton
- Mr. Bernstein
- Mr. Darholt
- Miss Denny
- Miss Fore
- Mr. Goodrum
- Dr. Green
- Dr. Hechenbleikner
- Mr. Higgins
- Mrs. Hoyle
- Dr. Macy
- Miss Markham
- Mrs. Scherger
- Mr. Tinkham
- Mrs. Winningham

LIBRARY

Mrs. Scherger, *Chairman*

- Mr. Darholt
- Miss Fore
- Mr. Goodrum
- Dr. Hechenbleikner
- Dr. Macy
- Mr. Norman
- Mr. Ploger
- Mrs. Plybon

PUBLIC RELATIONS

Miss English, *Chairman*

- Mr. Darholt
- Miss English
- Miss Fore
- Mr. Higgins
- Dr. Macy
- Mrs. Scherger
- Mr. Whitener

PUBLICATIONS

Miss Denny, *Chairman*

- Miss Baker
- Miss English
- Miss Fore
- Mr. Higgins

SCHOLARSHIPS, LOANS, AND AWARDS

Miss Fore, Miss English, *Chairmen*

- Miss Cone
- Mr. Darholt
- Miss Denny
- Mr. Whitener
- Mr. Yarbrough

STUDENT GOVERNMENT

Mrs. Winningham, *Chairman*

- Miss English
- Miss Markham
- Dr. Macy
- Mr. Yarbrough

SOCIAL ACTIVITIES

Miss English, *Chairman*

- Miss Baker
- Mr. Bernstein
- Miss Lawrence
- Dr. Macy
- Miss Markham
- Mr. Ploger
- Mrs. Scherger

GENERAL INFORMATION

OBJECTIVES OF THE COLLEGE

Charlotte College desires to serve the individual and the community by providing for young people and adults education for enriched personal living, for cultural development, and for responsible citizenship. Its major aims are to prepare young people for occupational competency and for admission to senior college or university and to offer for adults continued opportunities in vocational, cultural, and general education.

More specifically the basic objectives are threefold:

1. Preparation for further academic or pre-professional study in a four-year college or university through the two years of college work in most major fields.
2. Preparation for immediate employment through the two-year courses in business and technical education.
3. Further education for employed adults who desire increased occupational competency or personal growth through organized study in vocational and general education.

HISTORY

In the summer of 1946 when North Carolina colleges anticipated an unprecedented increase in enrollment because of returning veterans, the North Carolina College Conference and the State Department of Public Instruction decided to sponsor college centers to provide for first-year college work in Charlotte and in eleven other communities in this state. In 1946-1947 the Charlotte College Center was the largest in the state. With the addition of second-year college work in the fall of 1947, the enrollment of the Charlotte College Center reached 304, making it larger than all the other college centers combined.

Because the North Carolina College Conference felt that the emergency in education was over in 1949, the Conference voted to discontinue its sponsorship of the college centers after June 1949. However, the large enrollment maintained throughout 1948-1949, indicative of the continued need of such an institution in Charlotte, prompted the Board of School Commissioners to take measures to provide for a permanent college. At the request of the Charlotte Board of School Commissioners, a bill providing for the continuation of the Charlotte College Center as a permanent community college was passed by the 1949 session of the General Assembly. This bill authorized the Board of School Commissioners to administer the college as a part of the public school system and to finance the institution by charging the students tuition. At the outset any additional finances which were needed were to be provided from non-tax monies. In the event that these funds proved to be insufficient, the measure authorized a special election to provide a tax of not more than five cents on the $100. Since it had been apparent for some time that the available income was inadequate, a special tax election was held and passed by the electorate of the city of Charlotte on May 18, 1954. The passage of this election provided a two cents tax on the $100 property valuation for the Charlotte Community College System of which Charlotte College is a part. In 1955 the General Assembly of North Carolina made the first appropriation for support of Charlotte College.

The two cents city levy voted in 1954 was eliminated on April 26, 1958, when citizens of Charlotte and Mecklenburg County voted a two cents tax on the $100 property valuation in Mecklenburg County for the support of the Charlotte Community College system. This officially brought the college under the North Carolina community college system, gave it its first Board of Trustees, and made it eligible for annual grants-in-aid from the State.

On November 4, 1958, a successful bond election in Mecklenburg County provided the necessary local funds which assured the college of the maximum State grant to enable it to acquire a site and initiate its building program. The 260-acre campus on highway 49, located about eight miles from the center of Charlotte, was purchased on February 4, 1959.

In the 1959-1960 session, the second year under its own board of trustees, Charlotte College reached a total enrollment of 1275 individuals, including 1153 in regular college classes and 122 students in non-college credit courses. The college has a faculty of 65 full or part-time instructors.

LOCATION

Charlotte College is located in the city of Charlotte in Mecklenburg County, North Carolina. With a population of 200,878, Charlotte serves as the center of commerce, industry, and culture of an area of twenty-four counties.

Classes are held in the old Central High School buildings located at the corner of Elizabeth Avenue and North Kings Drive, less than a mile from the center of the city. The Charlotte College office is located on the main floor of the building at 221 North Kings Drive.

LIBRARY FACILITIES

Charlotte College Library has a basic collection of approximately 13,000 volumes. A carefully selected group of 100 periodicals are received regularly. In addition to the general circulating collection, the library supplements classroom instruction with reserve collections in each subject field especially selected and kept up to date. Reference and research materials are available on the undergraduate level.

Students may use also the Charlotte Public Library, which consists of one main and nine city-county branches, and interlibrary loan through which books for research are available from the University of North Carolina Library Interlibrary Center.

COUNSELING AND TESTING

The college provides counseling service for students by assigning each student to a member of the faculty according to his particular field of interest. The faculty counselor helps the student to arrange his program of study at Charlotte College and approves the courses to be taken prior to the registration for each quarter. Subsequent changes in courses must be made through the counselor. The Director, Registrar, and the Director of Student Personnel are also available to assist the student.

Students who desire help in clarifying their occupational goals may consult the Director of Student Personnel for occupational information sources and for information on aptitude and interest tests to aid in deciding on an occupation.

MEMBERSHIP AND ACCREDITATION

Charlotte College is a member of the North Carolina College Conference, the Southern Association of Junior Colleges, and the American Association of Junior Colleges. It is accredited by the Southern Association of Colleges and Secondary Schools.

Credits earned at Charlotte College in curricula leading to degrees are transferable to senior colleges and universities.

VETERANS AND WAR ORPHANS EDUCATION

Charlotte College provides educational opportunities for veterans and war orphans. Veterans seeking training under the provision of Public Law 894 (Federal Educational Rehabilitation Program), or Public Law 550 (Veterans' Readjustment Assistance Act of 1952), and war orphans seeking training under Public Law 634 (War Orphans' Educational Assistance Act of 1956) must enroll for a minimum of fourteen quarter hours in order to receive full subsistence. Routines involving letters of eligibility, interruption of training, and the like are handled by the college office. Technical questions relating to the Veterans Administration are referred to the Charlotte Office of the Veterans Administration, which is located at 205 Liberty Life Building, Charlotte, N. C.

Before the time of registration, each veteran or war orphan who wishes to enter Charlotte College should do the following:

1. Make application for admission according to procedure described on pages 18 and 19 of the catalog. Forward to the registrar transcripts of all previous high school and/or college courses completed before or after induc-

tion or as a part of Army or Navy basic training or specialized training program, and also records of courses taken by correspondence through the United States Armed Forces Institute. The latter records may be secured from United States Armed Forces Institute, Madison, Wisconsin. All transcripts and records should be sent directly from the school, college, or other agency to Charlotte College.

2. Make application through the local Veterans Administration Office for a Certificate of Eligibility and Entitlement, or, if the veteran has interrupted his previous training in another institution, for a supplemental certificate of eligibility.

War orphans under Public Law 634 and veterans in training under Public Law 894 or 550 will receive an education and training allowance each month from the Government to meet part of the expenses of their training and living costs. Tuition, fees, books, supplies, and equipment will not be paid by the Government; instead, they will have to be paid out of the monthly allowance. A veteran or war orphan will get his monthly allowance some time after the end of each month of training completed. Before the Veterans Administration can pay him, the law requires a certification from the veteran or war orphan and Charlotte College that he was enrolled in and was pursuing his course during that period.

Veterans and war orphans attending Charlotte College are required to maintain satisfactory academic achievement and attendance.

EDUCATION FOR VOCATIONALLY HANDICAPPED

Men and women who have suffered a disability which renders them vocationally handicapped or which might be expected to render them vocationally handicapped are eligible for services of the Division of Vocational Rehabilitation. These services include vocational counseling and guidance, medical treatment, training (payments of costs such as books, fees, tuition), and placement. These services are available at no cost to the individual.

A Vocational Rehabilitation Officer is available in Charlotte for interviewing applicants. Appointments may be made by calling the Vocational Rehabilitation Office, 127 West Seventh Street, telephone FRanklin 5-8686.

EMPLOYMENT SERVICE

The college assists students in securing part-time or full-time employment during their enrollment at Charlotte College and gives special attention to the placement of students who graduate in the terminal curricula. Application should be made in person at the office of the Director of Student Personnel.

STUDENT ACTIVITIES

STUDENT GOVERNMENT

It is the policy of Charlotte College to encourage and develop self-government of the students. The Student Government Association was organized in 1946, the first year of the Charlotte College Center, and has continued to function since that time.

The Student Council is composed of the president, vice-president, secretary, and treasurer of the Student Government Association; the president, vice-president, secretary-treasurer, and five representatives of the Sophomore Class; the president, vice-president, and secretary-treasurer, and five representatives of the Freshman Class; the chairmen of standing committees; and the Editors of the publications. The functions of these school officers include serving the students in every possible way, forming certain committees vital to the Student Government program, and formulating, with the help of the students and faculty, certain school policies.

ATHLETICS

The athletic program is at present confined to basketball. The "Charlotte College Owls" play a full schedule of games against teams of other junior colleges who are members of the Virginia-Carolina Junior College Conference of the National Junior College Athletic Association. Additional sports will be added to the program as college enrollment and student interest indicate the need for them.

RECREATION

Various programs of recreation and entertainment are planned and carried out by the students under faculty supervision. Formal and informal dances are held during holidays and other special occasions throughout the year. Other programs which attract major interest and participation include coffee-hours, picnics, and receptions. Suggestions of the students are used for planning additional activities.

PUBLICATIONS

Literary Magazine

The Parnassian, a literary magazine, is published by the members of the Writers Club under the supervision of the English Department. This annual publication was first issued in the spring of 1957 and has as an aim the promotion of interest in good writing. The broad scope of subject matter gives an interesting presentation of student opinion and sentiment.

Newspaper

To provide information for all persons interested in Charlotte College, the students publish a newspaper, the Charlotte Collegian.

The purposes of the newspaper are to create a wholesome school spirit, to support the best traditions of the institution which it represents, to encourage worthy school activities, to promote scholarship, to encourage the ideals of true sportsmanship, and to record the history of the school.

Yearbook

Charlotte College's yearbook, Si Si, was first published in the spring of 1950. Since that time it has greatly increased in size and student interest. The purpose of the yearbook is to present a written and pictorial record of each college year. This publication is supported through advertisements and the Yearbook Fee. Every student who pays this fee is entitled to a copy of Si Si.

ORGANIZATIONS

Academic

Le Cercle Francais, the French Club is open to all students interested in the language, customs and culture of the French people. Social and educational meetings are held for the purpose of broadening the members' knowledge of the French civilization and increasing their conversational ability in the French language.

The *Physical Science Club* of Charlotte College was organized to pursue science collectively. The club meets regularly on the third Saturday of every month. This meeting starts with dinner, which is followed by a speaker or a demonstrator. The club has a discussion group in which the members have the opportunity of expanding their ideas among persons with similar interests. The science teachers are the advisors of the club.

The *Spanish Club* is open to all Charlotte College students interested in the Spanish language. Social and educational activities are carried out for the purpose of increasing the students' knowledge of the Spanish speaking countries.

The purpose of the Charlotte College Chapter of *Student National Education Association* is to inform students of the possibilities offered in the field of education, to help them plan their courses of study, and to give them insight into the actual teaching situation. An attempt is made, also, to direct the interest of others toward the teaching profession.

The *College Council on United Nations* seeks through discussion groups and inter-campus meetings to gain an understanding of the activities of the United Nations and of the problems facing its member nations. Its broader purpose is to encourage student interest in international affairs.

Honorary

Phi Theta Kappa is a national honorary scholastic society the object of which is to promote scholarship, to develop character, and to cultivate fellowship among students in the junior colleges of America. The Charlotte College chapter, Iota Lambda, was established in May, 1957. Students who display good moral character and, at the time of election, are within the scholastic upper ten per cent of the regularly enrolled student body are normally eligible for membership.

Sigma Tau Sigma is the national honor fraternity recognizing excellence in social science. The Charlotte College chapter, Alpha, was established in May, 1957, and is open to students displaying interest and achievement in the social sciences.

Social

The principal aim of *Sigma Lambda Chi* fraternity is to promote the high standards and ideals of Charlotte College through wholesome social activities and services to the students and to the College.

Literary

The *Writers' Club* has as its purpose the discovering and developing of talent sufficient to provide a genuine support toward the production of a literary magazine. Students showing an interest in writing are invited to become members of the Writers' Club.

Musical

The *Charlotte College Chorus*, which was re-organized in 1956, has added much to the atmosphere of the school. The members of this group meet weekly with a dual purpose of enjoying singing together and improving their musical abilities. The Chorus furnishes musical programs for special events during the year. One quarter hour of credit may be earned for each quarter of participation. However, only six quarter hours of credit may be earned in this program.

Publicity

The purpose of the *Radio Workshop* of Charlotte College is to present programs of interest to the general public. The programs, presented by the students of Charlotte College in cooperation with local radio stations, are concerned mainly with the activities and development of Charlotte College.

Advisory

The *Freshman Advisory Committee* was established at Charlotte College during the fall quarter, 1957. There is a dual purpose for this committee: to orient new students in the ways of Charlotte College and to assist the faculty advisers in guiding their students.

GENERAL REGULATIONS

REQUIREMENTS FOR ADMISSION

For Freshman Standing

Formal application for admission to freshman standing is made by submitting

(1) Personal data called for on an application form which may be obtained from the Charlotte College office.

(2) Satisfactory high school or preparatory school achievement.

Such achievement is indicated by

- (a) the completion of an accredited four-year high school or preparatory school course, or its equivalent, which ordinarily means graduation;
- (b) sixteen acceptable units;
- (c) satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

If the student plans to attend the University of North Carolina or the Woman's College of the University of North Carolina, the sixteen unit minimum offered for admission should include the following required distribution:

English	4 units
Algebra	1½ units
Plane geometry	1 unit
Foreign language (two years in one language)	2 units
United States History	1 unit
Natural science (one year with laboratory)	1 unit
Electives	5½ units

If the student plans to enter the North Carolina State College of Agriculture and Engineering of the University of North Carolina, the sixteen unit minimum offered for admission should include the following required distribution:

English	4 units
United States History	1 unit
Algebra	1½-3 units
Plane and solid geometry	1-1½ units
(Solid geometry required only for School of Engineering and Agricultural Engineering)	
Science (one year)	1 unit
Electives	7 units

Students who plan to enter other colleges should consult the catalogs of those institutions for entrance requirements.

If a student enters with deficiencies in foreign language or mathematics, he may remove these deficiencies by taking prescribed courses.

All candidates for admission will be required to present satisfactory scores on the Scholastic Aptitude Section of the College

Entrance Examination.

Arrangement for these tests is the responsibility of the applicant and should be made with the College Entrance Examination Board, P. O. Box 592, Princeton, New Jersey, not less than one month before the date of the test. On the application for the test the student should specify that the scores be sent to the Registrar, Charlotte College, 221 North Kings Drive, Charlotte, North Carolina.

College Entrance Board tests are given at a large number of examination centers throughout the United States, including Charlotte, North Carolina, on the following dates:

Wednesday, August 10, 1960
Saturday, December 3, 1960
Saturday, January 14, 1961
Saturday, February 4, 1961
Saturday, March 18, 1961
Saturday, May 20, 1961
Wednesday, August 9, 1961

ADVANCED PLACEMENT COURSE CREDIT

Any student may apply for course credit in appropriate subjects if he has had an Advanced Placement Course in secondary school (or equivalent) and has received a score of four or five on the Advanced Placement Test. These tests are given in May of each year by the College Entrance Examination Board.

For Advanced Standing

For advanced standing, application is made by submitting (1) personal data called for on an application form, (2) a transcript of all former college work, and (3) acceptable results of college entrance examinations. If such results are not available, the transfer student will be required to take the Scholastic Aptitude Section of the College Entrance Examination.

A student who has completed two years of college work and wishes to take other required first or second year courses is termed an "Unclassified College Grade" student. In addition to meeting the requirements for advanced standing, such a student must also present a letter of permission from the senior institution to which he expects to transfer the credits earned at Charlotte College.

For Special Students

Students twenty-one years of age or older, who have not been able to secure the required number of units for admission to college, will be allowed to take without credit any college course for which they are prepared. Grades thus earned will be recorded but not transferred because they carry no credit toward graduation.

For Auditors

Students who wish to audit courses must register through the

College office. Auditors receive no credit and are not required to attend classes, participate in class discussion, or take tests and examinations.

READMISSION REQUIREMENTS

The college reserves the right to declare a student ineligible to return if his grades do not indicate satisfactory progress.

REGISTRATION

Registration for credit in any course is limited to the first five days of the quarter.

Under the quarter system, three subjects of not less than fifteen quarter hours constitute a full college load, but a student may register for less work. For students who maintain a "B" average, special permission may be obtained from the registrar to take an additional course.

EXPENSES

Tuition

The tuition fee is four dollars ($4.00) per quarter hour credit for residents of North Carolina and eight dollars ($8.00) per quarter hour credit for non-residents. The trustees have ruled that a student whose supporting parent (or guardian) has not been a *bona fide* resident of the State of North Carolina for more than six months immediately preceding the day of his first enrollment in the institution shall be termed an out-of-state student with the following exceptions:

(1) A student over twenty-one years of age at the time of his first matriculation who has resided in North Carolina for more than one year other than by virtue of attendance at another college or temporary military assignment, preceding the day of his first enrollment.

(2) A student whose supporting parent is a regular employee of the Federal Government stationed in the State of North Carolina.

(3) A student whose supporting parent is a regular employee of the Federal Government who is employed outside of the State, but who through law is permitted to retain his North Carolina citizenship.

The furnishing of incomplete or incorrect information regarding residence may result in the student's dismissal from college. The Registration Office determines each student's residence status on the basis of existing information and interpretation of regulations.

Registration

A registration fee of five dollars ($5.00) will be charged each quarter.

Late Registration

A fee of five dollars ($5.00) will be charged for students registering after the designated registration day each quarter.

Laboratory Fees

Each student taking a laboratory course must pay, in addition to tuition, a fee to help cover the cost of conducting laboratory experiments. The courses carrying the $5.00 laboratory fees are as follows:

Business Administration 1, 21, 22
Botany 1, 41
Chemistry 1, 2
E.T. 112
E.T. 121
E.T. 131
E.T. 141
E.T. 222
E.T. 232, 233, 234
E.T. 242, 243
E.T. 251, 252, 253
E.T. 261, 262, 263
E.T. 271, 272, 273,274, 275
E.T. 281, 282, 283
E.T. 291
Geography 38
Geology 41, 42
I.T. 233
M.T. 213, 214, 241
Physics 24, 25
Physics 201, 202, 203
Zoology 1, 41

The courses carrying the $10.00 laboratory fee are as follows:

Chemistry 31, 41, 42
C.T. 211
C.T. 221
C.T. 224
C.T. 231
C.T. 234
C.T. 227
M.E. 101, 102, 103
E.E. 201, 202, 203
E.T. 276
M.T. 121, 122
M.T. 131
M.T. 223, 224, 225
M.T. 232
M.T. 242
M.T. 215

The courses carrying the $15.00 laboratory fee are as follows:

C.E. 201, 202, 203
C.T. 112
C.T. 122
C.T. 132
C.T. 216
C.T. 226
C.T. 236

Student Activity Fee

The basic student activity fee of four dollars ($4.00) a quarter is charged each student. This entitles the student to admission to all college athletic contests, to all dramatic productions, to all other entertainments sponsored by the college, and to a subscription to the college newspaper. The yearbook fee of three and one-half dollars ($3.50) is required of each student upon his entrance for the fall or the winter quarter.

Graduation Fee

All members of the graduating class will pay the graduation fee of six dollars ($6.00) at the beginning of the spring quarter of the year of expected graduation. This fee covers the cost of the diploma and the rental of cap and gown.

Books and Supplies

The estimated average cost of books and supplies per quarter is twenty-five dollars ($25.00) except that an additional estimated fifty-five dollars ($55.00) is needed by entering engineering students to provide for drawing instruments, a slide rule, and supplies. This is a non-recurring expense.

Payment of Fees

All charges for tuition and fees are due and payable on the day of registration. Checks and money orders should be made payable to Charlotte College.

Refunds

The registration fee is not refundable.

In case of withdrawal during the quarter the following refund schedule applies:

Period of Enrollment Counted from Day of Registration	Percent of Tuition and Fees Refunded
One week or less (1 to 7 days)	80%
Between 1 and 2 weeks (8 to 14 days)	60%
Between 2 and 3 weeks (15 to 21 days)	40%
Between 3 and 4 weeks (22 to 28 days)	20%
Over 4 weeks (29 days or over)	0%

STUDENT LOAN FUNDS

In the spring of 1958 the first contribution was made to the Charlotte College Student Loan Fund. Additional contributions were made during the year and loans were granted from the fund in the spring quarter, 1959. While the fund is small, the maximum amount which can be borrowed is $25.00 per quarter to be used for books or tuition.

Charlotte College is participating in the National Defense Student Loan Fund program under which full-time students may borrow up to $1,000 per year for room, board, tuition, fees, books and transportation.

Application blanks and details on both loan funds may be obtained from the Director of Student Personnel or the Business Manager.

SCHOLARSHIPS

Friends of Charlotte College have provided a number of scholarships for worthy students who can show definite need for such aid. These scholarships are to be allotted in quarterly payments. Payments after the first and each succeeding quarter are contingent upon the scholarship recipient's maintenance of a satisfactory record for the preceding quarter.

1. One Charlotte College Tuition Scholarship of $420.00 for the freshman and sophomore years.

2. Seven Charlotte College Tuition Scholarships of $210.00 each to be awarded annually to a member of the graduating class from each of the senior high schools in Charlotte and in Mecklenburg County.
3. Two Charlotte College Tuition Scholarships of $210.00 each to a high school graduate from any of the surrounding counties.
4. One Charlotte College Tuition Scholarship of $150.00 to be awarded annually.
5. Two Charlotte College Tuition Scholarships of $75.00 each to be awarded annually.

AWARDS

The Charlotte Chapter of the National Association of Accountants awards annually the Herbert Conner Scholarship to a deserving student, preferably a student majoring in business.

Altrusa Award of $150.00 is awarded annually to a freshman student who has shown outstanding scholastic attainment and a loyal spirit of cooperation in college activities.

Bonnie E. Cone Award of $150.00 is awarded to a freshman student who has demonstrated fine college spirit and made a significant contribution to college life.

The Bill Mitchell Award is awarded annually to two students of the graduating class who have shown outstanding qualities of scholarship and leadership and maintained an attitude of unselfish interest in the welfare of their fellow-students and of the college as a whole.

SPECIAL AWARDS

The Alumni Scholarship, first given in 1958, is awarded to a deserving member of the rising Sophomore Class who has an above average scholastic record for his freshman year at Charlotte College.

The American Business Women's Association is awarding a scholarship for a promising young woman who needs financial assistance.

The Association of Insurance Women of Charlotte is awarding a scholarship of $210.00 to a young woman who has made an outstanding record in her freshman year.

Two L. G. Mumaw Engineering scholarships of $250 each are awarded to two deserving sophomores who are studying engineering, preferably civil engineering. The first of these scholarships was presented by the employees of Easterby and Mumaw, Inc., Charlotte, Raleigh, Greensboro, and Hickory. A second scholarship was given by Mr. Mumaw himself.

The Panhellenic Congress of Charlotte is awarding a two-year scholarship of $180.00 each year to aid a promising young woman to complete two years at Charlotte College.

The Piedmont Chapter of the North Carolina Professional Engineering Society is awarding one scholarship of $250.00 to an outstanding student in the second year of engineering. The Ladies' Auxiliary of the Piedmont Chapter is also awarding a scholarship of $100.00.

The Keymen, the predecessor of the Sigma Lambda Chi, initiated a scholarship which was first awarded in 1951. Sigma Lambda Chi has designated that the award this year should go to an entering freshman from Charlotte or Mecklenburg County who has maintained a "B" average in high school.

The Optimist Club has this year initiated a four-year scholarship. This scholarship is to be awarded to a young man with superior academic achievement who is in need of financial assistance.

The Jefferson Standard Foundation is awarding a scholarship of $275.00 to assist a worthy student to obtain college or technical training for a career in radio or television.

The Mecklenburg Chapter of the Daughters of the American Revolution is awarding a scholarship of $100.00 to a student who needs financial assistance.

For two years the Pilot Club of Charlotte has awarded a full-tuition scholarship to a promising young woman.

The Quota Club of Charlotte is this year initiating a scholarship to be awarded to a deserving young woman for one year's study.

The Phi Theta Kappa scholarship was first awarded in 1960 to an entering freshman with an outstanding record for high school achievement in scholarship and citizenship.

COMMENCEMENT MARSHALS

The commencement marshals are rising sophomores who have maintained the highest scholastic average during their freshman year. The marshal who has the best academic record is designated chief marshal.

SCHEDULE OF CLASSES

Evening

Evening classes are scheduled to meet Monday through Friday from four until ten o'clock. Each class period is fifty-five minutes in length. In addition, laboratory sciences and engineering graphics have one or more double periods per week.

Daytime

Charlotte College began offering day classes in September, 1957. Classes meet from eight in the morning until three in the afternoon.

ATTENDANCE

Regular attendance in all classes is required of all students. Each student in good standing is allowed two free cuts from each class during the quarter, provided this does not exceed two class or two laboratory hours.

After a third absence the student is placed on probation, and any further absence will result in a grade of "F" and may lead to suspension from college. Students absent because of sickness or some other excusable reason must submit a written explanation within two days after returning to school. Absences not explained within two days will be recorded as unexcused. The full responsibility for promptly submitting written explanation for absences and tardies rests upon the student.

A student who has been absent from class on account of prolonged or repeated illness or other emergencies forfeits the cuts which he might otherwise have been allowed for the quarter.

Students on academic probation will not be allowed any unexcused absences.

No student will be given credit for any course unless that student has attended at least 75 per cent of the total number of classes in that quarter.

Three unexcused tardies count as an unexcused absence.

Work omitted because of absence from class, whether excused or unexcused, must be made up promptly.

To make up a scheduled or previously announced test from which he has an excused absence, the student must secure written permission from the registrar. He should then present the permission to the instructor, who will arrange to give the test at a later date. The full responsibility for making arrangements to take the test rests upon the student.

CHANGE OF COURSE

To change a course it is necessary for a student to get the written permission of his advisor, the instructor of the course, and the registrar. No student will be permitted to change a course after the first week of a quarter.

WITHDRAWAL

Any student who leaves the college, except after the close of a quarter, without written notification to the office, will receive a mark of "F" in all courses.

GRADING

The unit of measurement of college work is the quarter hour. It represents one lecture hour per week for one quarter (together with two hours of preparation outside of class) or two hours of laboratory work.

Letters are used to indicate the quality of work done. The meaning of each grade with its accompanying quality points is as follows:

A	Excellent—3 quality points per quarter hour credit
B	Good—2 quality points per quarter hour credit
C	Fair—1 quality point per quarter hour credit
D	Passed—0 quality points per quarter hour credit
F	Failed—Minus 1 quality point per quarter hour credit
F*	Failing when course was dropped—0 quality points per quarter hour credit
I	Work incomplete—0 quality points per quarter hour credit
W	Official withdrawal from the course—0 quality points per quarter hour credit

Unless a student completes the required assignments by the end of the academic year, his incomplete grade (I) automatically becomes an "F".

Reports of standing of all students will be issued after the close of each quarter.

An average grade of "C" must be maintained in all work undertaken by a candidate for graduation; in other words, he must have as many quality points as he has quarter hours of credit.

In order for a student to remain in college, he must maintain a passing average.

TRANSCRIPTS OF RECORDS

Upon request of the student, academic credits earned in Charlotte College will be transferred to any college or university.

Each student is entitled to one official transcript of his work, provided all accounts with the college have been settled satisfactorily. A student requesting an additional transcript should enclose one dollar for this service.

DEAN'S LIST

In order to qualify for the Dean's List, a student must take a full load of three subjects (at least fourteen quarter hours of work) and maintain at least a "B" average, with no grade lower than a "C".

REQUIREMENTS FOR GRADUATION

A minimum of 90 quarter hours of work is required for graduation, of which 45 hours must be earned at Charlotte College. Upon the satisfactory completion of any of the prescribed courses listed in the following pages, a student is awarded a diploma and the title of "Associate in Arts".

PROGRAMS OF STUDY

The programs of study contained in the following pages are classified as "University Parallel" or "Terminal." Those in the former category are intended for students who plan to transfer to a university or a senior college after completion of lower division work at Charlotte College. Those in the second category are intended for students who do not plan to enter senior institutions, but wish to gain the best possible training in specific fields during two years of college and to enter their chosen vocation on graduation from Charlotte College.

UNIVERSITY PARALLEL CURRICULA

Any of the academic courses offered by the college, if properly selected, should be accepted for transfer to a senior institution and should count, without loss of credit hours, toward a bachelor's degree. But a student who expects to continue his college career or to enter a professional school after leaving junior college should consult the catalog of the institution he expects to attend and select his courses accordingly. Although the registrar or a counselor will gladly assist the student in choosing the courses that will assure junior standing in the senior institutions, the final responsibility for selecting the proper courses must rest with the student.

BUSINESS ADMINISTRATION (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Botany 1, Zoology 1, Geography 38 (choose any two)	10
Choose one:	
*French 3, 4, and 21 or Philosophy 41	
*Spanish 3, 4, and 21 or Philosophy 41	15

SECOND YEAR

English 3-4	10
Economics 31-32	10
Political Science 41	5
Choose one:	
History 21, 22	
Philosophy 41, 42	
Political Science 42	
Psychology 1	5

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*The elementary course, 1-2, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language 1, 2, 3, and 4 will fulfill the requirement of language 3, 4, and 21 or Philosophy 41.

****Choose one:*

Chemistry 1-2-31 Geology 41-42 Physics 24-25 Mathematics 31-32	10

EDUCATION—ELEMENTARY (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Botany 1 or Zoology 1	5

Choose one:

*French 3-4-21 *Spanish 3-4-21	15

SECOND YEAR

English 3-4	10
Geography 38	6
History 21-22	10

Choose:

Economics 31-32 Education 41 Philosophy 41-42 Political Science 41 Sociology 51-52	10

Choose one:

Chemistry 1-2 Geology 41-42 Physics 24-25 Mathematics 31-32-33	10

**A student must have two courses in natural science or one course in natural science and one course in mathematics. These courses must include one course in physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

*The elementary course, 1-2, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language 1, 2, 3, and 4 will fulfill the requirements of language 3, 4, and 21 or Philosophy 41.

EDUCATION—SECONDARY (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Choose one:	
Chemistry 1-2	
Physics 24-25	10
Choose one:	
*French 3-4-21	
*Spanish 3-4-21	15

SECOND YEAR

English 3-4	10
Choose:	
Geology 41-42	
**Botany 1 or Zoology 1	
Geography 38	
Mathematics 31	
Botany 41	
Zoology 41	10
Choose:	
Economics 31-32	
Education 41	
History 21-22	
Philosophy 41-42	
Political Science 41-42 or 52	
Sociology 51-52	20

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*A student placed in foreign language course number 1 may meet the requirements with courses 1-2, 3-4, provided he has no entrance deficiency in foreign language.

**A student who wishes to take further work in botany and zoology should choose as his first course in these areas Botany 41 or Zoology 41 instead of Botany 1 or Zoology 1.

ENGINEERING CURRICULA (University Parallel)

In cooperation with the Engineering School of North Carolina State College, Charlotte College has developed a correlated program for the first two years of engineering. After completing the two years at Charlotte College, the student with "C" or better average may transfer to North Carolina State College to complete the final two years of the undergraduate program.

In all branches of engineering the requirements for the first year are the same. In the second year the choice of electives must be according to the chosen field. The detailed course of study for the last two years can be obtained from the State College catalog.

If a student plans to transfer to an engineering school other than North Carolina State College, the registrar will assist in planning his curriculum accordingly.

From the engineering curricula suggested below, a student from another field of engineering may also complete the requirements for junior standing at North Carolina State College.

CHEMICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
Chemistry 41-42	12
Choose:	
Economics 31-32	
English 3-4	
History 21-22	
Political Science 41	
Psychology 1	20

CIVIL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
C. E. 201-202-203	9
E. M. 211	5

Choose:

Economics 31-32	
English 3-4	
History 21-22	
Political Science 41	
Psychology 1	15

ELECTRICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
E. E. 201-202-203	12

Choose:

Economics 31-32	
English 3-4	
History 21-22	
Political Science 41	
Psychology 1	20

GEOLOGICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
Chemistry 41-42	12
Geology 41-42	12
Choose:	
Economics 31-32	
English 3-4	
History 21-22	
Political Science 41	
Psychology 1	10

MECHANICAL ENGINEERING (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 101-102-103	15
Chemistry 1-2-31	16
M. E. 101-102-103 Engineering Graphics	6

SECOND YEAR

Mathematics 201-202-203	15
Physics 201-202-203	15
E. M. 211	5
Choose:	
Economics 31-32	
English 3-4	
History 21-22	
Political Science 41	
Psychology 1	25

JOURNALISM (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Choose one:	
Chemistry 1-2-31	
Geology 41-42	
Physics 24-25	
Botany 1, Zoology 1, Geography 38 (Choose two)	10
Choose one:	
French 3-4	10
Spanish 3-4	10

SECOND YEAR

English 3-4	10
Journalism 1-2	10
History 21-22	10
Economics 31-32	10
Choose one:	
French 21-22	10
Spanish 21-22	10

LIBERAL ARTS (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Choose one:	
Chemistry 1-2-31	
Geology 41-42	
Physics 24-25	
Botany 1, Zoology 1, Geography 38 (choose any two)	10
Choose one:	
*French 3-4	
*Spanish 3-4	10

SECOND YEAR

English 3-4	10
Choose one:	
French 21-22	
Spanish 21-22	10
Choose one:	
Economics 31-32	
History 21-22	
Philosophy 41-42	
Political Science 41-42 or 52	
Psychology 1 (for students who are not psychology majors)	
Sociology 51-52	10
***Choose one:*	
Chemistry 1-2-31	
Geology 41-42	
Physics 24-25	
Mathematics 31-32-33	10

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*A student placed in foreign language course number 1 may meet the requirements with courses 1-2, 3-4, provided he has no entrance deficiency in foreign language.

**A student must have two courses in natural sciences or one course in natural science and one course in mathematics. These courses must include one course in physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

PRE-LAW COURSES (University Parallel)

Students electing the pre-law course may do so in one of the following ways:

(1) Take the regular liberal arts course.
(2) Take the regular business administration course.

PRE-MEDICINE (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Chemistry 1-2-31	16
Choose one:	
*French 3-4	
*Spanish 3-4	10

SECOND YEAR

Physics 24-25	12
Choose two:	
English 3-4	
Chemistry 41-42	
Botany 41	15
Choose one:	
French 21-22	
Spanish 21-22	10

SCIENCE (University Parallel)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Chemistry 1-2-31	16
*French 3-4	10

SECOND YEAR

English 3-4	10
French 21-22	10
Physics 24-25 (not for Geology majors)	12
Mathematics 31-32-33 (not for Geology majors)	15
Choose according to major:	
Chemistry 41-42	
Geology 41-42, Geography 38	
History 21-22	10-28

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*A student placed in French 1 or Spanish 1 may meet the requirements with courses 1-2, 3-4, provided he has no entrance deficiency in foreign language.

PRE-OPTOMETRY (University Parallel)

The two year curriculum in pre-optometry is designed to provide the admission requirements to schools and colleges of optometry.

FIRST YEAR

	Quarter Hours
English 1-2	10
Psychology 1	5
Mathematics 7-8	10
Chemistry 1-2-31	16
Choose one:	
*French 3-4	
*Spanish 3-4	10

SECOND YEAR

English 3-4	10
Physics 24-25	12
Zoology 41	6
Choose two:	
History 1-2	
English 9	
Political Science 41	10
Choose one:	
French 21-22	
Spanish 21-22	10

PRE-PHARMACY (University Parallel)

The pre-pharmacy curriculum is the first year of a five-year program. It is designed to enable the student to complete the required courses for transfer with second year standing to the School of Pharmacy of the University of North Carolina.

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Mathematics 7-8 or R-7-8	10
Chemistry 1-2-31	16
Choose one:	
*French 3-4	
*Spanish 3-4	10

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*A student may meet the requirements with courses 1-2, provided he has no entrance deficiency in foreign language.

TERMINAL CURRICULA

The terminal curricula are intended primarily for students who expect to complete their college program in two years or less and go directly into employment. However, some work in each program is transferable to senior colleges so that a person can transfer from a terminal curriculum to a university parallel curriculum without losing all of his credits.

BUSINESS ADMINISTRATION AND ACCOUNTING COURSE (Terminal)

		Quarter Hours
English 1-2	English Composition and Rhetoric	10
History 1-2	Western Civilization	10
Bus. Adm. 1	Introduction to Accounting	5
Mathematics 1	Business Mathematics	5
English 21	English of Business	5
Elective	(Typewriting required of students not proficient)	10

SECOND YEAR

Eng. 3-4	English Literature	10
Bus. Adm. 21-22	Accounting Principles	10
Economics 31-32	General Economics	10
Political Sc. 41	Government of the United States	5
Bus. Adm. 5	Business Law	5
Elective		5

GENERAL BUSINESS AND SECRETARIAL SCIENCE COURSE (Terminal)

FIRST YEAR

		Quarter Hours
English 1-2	English Composition and Rhetoric	10
History 1-2	Western Civilization	10
Bus. Ed. 15-16	Beginning Typewriting	10
Bus. Ed. 17-18	Beginning Shorthand	10
Bus. Adm. 1	Introduction to Accounting	5

SECOND YEAR

English 21	English of Business	5
Bus. Adm. 21-22	Accounting Principles	10
Bus. Ed. 25-26	Advanced Typewriting	10
Bus. Ed. 27-28	Advanced Dictation	10
Bus. Ed. 32	Office Machines	5
Bus. Ed. 33	Office Practice	5

DISTRIBUTION (Terminal)

The Distribution Curriculum is designed to train business employees in the fields of retail and wholesale selling and buying, personnel work, advertising, small store management, and related areas.

FIRST YEAR

		Quarter Hours
English 1-2	English Composition and Rhetoric	10
Economics 1	Business Economics	5
Mathematics 1	Business Mathematics	5
Psychology 1	General Psychology	5
Bus. Adm. 3	Principles of Advertising	5
Bus. Adm. 4	Selling	3
Bus. Adm. 6	Retail Merchandising	5
Bus. Adm. 9	Advertising Practice Workshop	4
Electives		
Bus. Ed. 15	Typewriting I	5
Bus. Adm. 1	Introduction to Accounting	5
Bus. Adm. 7	Merchandise Information-Textiles	3
Bus. Adm. 8	Merchandise Information-Non-Textiles	3
Pol. Sci. 41	Government of the United States	5

SECOND YEAR

English 9	Public Speaking	3
English 21	English of Business	5
Economics 31-32	General Economics	10
Bus. Adm. 5	Business Law	5
Bus. Adm. 24	Sales Management	5
Bus. Adm. 26	Organization and Operation of Small Business	5
Bus. Adm. 28	Public Relations	5
Bus. Adm. 31	Personnel Management	5
Psychology 21	Applied Business Psychology	5

JOURNALISM (Terminal)

FIRST YEAR

	Quarter Hours
English 1-2	10
History 1-2	10
Economics 31-32	10
Political Science 41-42	10
Business Ed. 15-16	10

SECOND YEAR

English 3-4	10
Journalism 1-2	10
History 21-22	10
Political Science 51-52	10
Sociology 51-52	10

TECHNICAL EDUCATION CURRICULA (Terminal)

Charlotte College offers several two-year programs of technical training for individuals preparing for positions in production, operation, maintenance, sales and supervision phases of industry. The primary purpose of these programs is to train individuals for occupations between the skilled crafts and the highly scientific professions.

CIVIL TECHNOLOGY—CONSTRUCTION OPTION (Terminal)

Civil Technology covers an extremely broad field, since it is related to practically every technical activity. The civil technician may help to build the factories of the mechanical industries or the power generating plants of the electrical industry. The curriculum of the Construction Option instructs the student in the preparation of plans, the estimate of materials and costs, use of surveying instruments, and supervision of construction work. He will be prepared to work as a civil engineer's assistant, a construction supervisor, draftsman, estimator, highway technician, or inspector.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
Chemistry 1 (Gen. Chem.)	3	4	5
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Mathematics I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Civil T. 111 (Const. Materials)	2	0	2
	15	8	19

SECOND QUARTER

	C	L	Q
Chemistry 2 (Gen. Chem.)	3	4	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Mathematics II)	5	0	5
M. E. 102 (Engr. Graphics)	0	4	2
	13	10	18

THIRD QUARTER

Bus. Adm. 5 (Business Law)	5	0	5
Physics 25 (General Physics)	5	2	6
English 2 (Comp. and Rhetoric)	5	0	5
M. E. 103 (Engr. Graphics)	0	4	2
	15	6	18

FOURTH QUARTER

Mech. T. 212 (Mechanics of Matls.)	5	0	5
C. E. 201 (Surveying I)	1	5	3
Civil T. 211 (Graphic Statics)	0	4	2
Civil T. 212 (Highway Const.)	3	0	3
Civil T. 213 (Heavy Equipment)	3	0	3
	12	9	16

FIFTH QUARTER

English 10 (Technical Writing)	3	0	3
C. E. 202 (Surveying II)	1	5	3
Civil T. 221 (Structural Draw. I)	0	4	2
Civil T. 223 (Steel & Timb. Const.)	4	0	4
Civil T. 224 (Materials Lab. I)	0	3	1
Civil T. 225 (Hydraulics)	3	0	3
	11	12	16

SIXTH QUARTER

C. E. 203 (Surveying III)	1	5	3
Civil T. 231 (Structural Draw. II)	0	4	2
Civil T. 232 (Concrete Const.)	4	0	4
Civil T. 233 (Cost Estimating)	4	0	4
Civil T. 234 (Materials Lab. II)	0	3	1
Civil T. 235 (Water and Sewage)	3	0	3
	12	12	17

CIVIL TECHNOLOGY—SURVEYING OPTION (Terminal)

The curriculum of the Surveying Option fills a great need in North Carolina by preparing the student to qualify for the position of Licensed Surveyor. In addition he would be qualified to work as a civil engineer's assistant, draftsman, estimator, highway technician, or photogrammetrist.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Math. I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Civil T. 112 (Elem. Surveying I)	2	3	3
	12	7	15

SECOND QUARTER

	C	L	Q
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Mathematics II)	5	0	5
M. E. 102 (Engr. Graphics)	0	4	2
Civil T. 122 (Elem. Surveying II)	2	3	3
	12	9	16

THIRD QUARTER

Physics 25 (General Physics)	5	2	6
English 2 (Comp. and Rhetoric)	5	0	5
M. E. 103 (Engr. Graphics)	0	4	2
Civil T. 132 (Plane Surveying)	2	3	3
	12	9	16

FOURTH QUARTER

Mech. T. 212 (Mechanics of Matls.)	5	0	5
Civil T. 211 (Graphic Statics)	0	4	2
Civil T. 212 (Highway Const.)	3	0	3
Civil T. 216 (Route Surveying)	2	6	5
Civil T. 111 (Const. Materials)	2	0	2
	12	10	17

FIFTH QUARTER

English 10 (Technical Writing)	3	0	3
Civil T. 221 (Structural Draw. I)	0	4	2
Civil T. 224 (Materials Lab. I)	0	3	1
Civil T. 226 (Const. Surveying)	2	6	5
Civil T. 227 (Mapping)	1	4	3
	6	17	14

SIXTH QUARTER

Bus. Adm. 5 (Business Law)	5	0	5
Civil T. 231 (Structural Draw. II)	0	4	2
Civil T. 233 (Cost Estimating)	4	0	4
Civil T. 234 (Materials Lab. II)	0	3	1
Civil T. 236 (Topographic Sur.)	2	6	5
	11	13	17

ELECTRICAL TECHNOLOGY—ELECTRONICS OPTION
(Terminal)

The curriculum in the Electronics Option provides general training in the basic studies of English, physics, mathematics, and drawing; as well as specialized training in electrical and electronic theory, circuitry, instrumentation, and practices. Advanced courses fall in the fields of radio, telemetry, television, radar, and transmission.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Mathematics I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Elec. T. 111 (Basic Electricity)	3	0	3
	13	4	15

SECOND QUARTER

	C	L	Q
English 2 (Comp. and Rhetoric)	5	0	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Mathematics II)	5	0	5
Elec. T. 112 (Direct-Current Cir.)	3	2	4
	18	4	20

THIRD QUARTER

Physics 25 (General Physics)	5	2	6
Math. 103 (Engr. Math. III)	5	0	5
Elec. T. 121 (A-C Circuits I)	4	2	5
Elec. T. 131 (Basic Electronics)	3	2	4
	17	6	20

FOURTH QUARTER

Math. 114 (Electronic Math.)	5	0	5
Elec. T. 222 (A-C Circuits II)	4	2	5
Elec. T. 232 (Ind. Electronics)	3	2	4
Elec. T. 261 (Telephone Tech.)	3	2	4
	15	6	18

FIFTH QUARTER

English 10 (Technical Writing)	3	0	3
Elec. T. 233 (Adv. Electronics I)	3	2	4
Elec. T. 251 (Elec. Machinery)	3	2	4
Elec. T. 262 (Microwave Tech. I)	3	2	4
Elec. T. 281 (Radio Technology I)	3	2	4
	15	8	19

SIXTH QUARTER

Elec. T. 234 (Adv. Electronics II)	3	2	4
Elec. T. 263 (Microwave Tech. II)	3	2	4
Elec. T. 282 (Radio Techology II)	3	2	4
Elec. T. 283 (Television Tech.)	5	2	6
	14	8	18

ELECTRICAL TECHNOLOGY—POWER OPTION
(Terminal)

The curriculum of the Power Option provides general training in the basic studies of English, mathematics, physics, and drawing, as well as specialized training in electrical and electronic theory, circuitry, instrumentation, and practices. Advanced courses fall in the fields of electric power production, distribution, and utilization, with special attention to the field of electrical contracting.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Math. 101 (Engr. Mathematics I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Elect. T. 111 (Basic Electricity)	3	0	3
	13	4	15

SECOND QUARTER

	C	L	Q
English 2 (Comp. and Rhetoric)	5	0	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Math. II)	5	0	5
Elec. T. 112 (Direct-Current Cir.)	3	2	4
	18	4	20

THIRD QUARTER

	C	L	Q
Physics 25 (General Physics)	5	2	6
Math. 103 (Engr. Math. III)	5	0	5
Elec. T. 121 (A-C Circuits I)	4	2	5
Elec. T. 131 (Basic Electronics)	3	2	4
	17	6	20

FOURTH QUARTER

	C	L	Q
Math. 114 (Electronic Math.)	5	0	5
Elec. T. 222 (A-C Circuits II)	4	2	5
Elec. T. 232 (Ind. Electronics)	3	2	4
Elec. T. 275 (Elec. Drawing I)	2	2	3
	14	6	17

FIFTH QUARTER

	C	L	Q
English 10 (Technical Writing)	3	0	3
Elec. T. 251 (Elec. Machinery)	3	2	4
Elec. T. 252 (A-C Machinery I)	3	2	4
Elec. T. 272 (Electrical Codes)	3	2	4
Elec. T. 273 (Illumination)	3	2	4
	15	8	19

SIXTH QUARTER

	C	L	Q
Bus. Adm. 5 (Business Law)	5	0	5
Elec. T. 253 (A-C Machinery II)	4	2	5
Elec. T. 274 (Elec. Power Dist.)	4	2	5
Elect.. T. 276 (Elec. Drawing II)	0	4	2
	13	8	17

MECHANICAL TECHNOLOGY (Terminal)

The field of Mechanical Technology embraces the manufacture and production of mechanical products and the tools, machines, and processes by which they are made. Emphasis in this curriculum is placed on principles and practices, general and specialized theory, from the standpoint of supervision rather than with a view toward development of manual skills. Technical institute graduates receive the type of general education that is basic to, and in demand by, companies in practically every line of business.

C—Class Hours L—Laboratory Hours Q—Total Quarter Credit Hours

FIRST QUARTER

	C	L	Q
English 1 (Comp. and Rhetoric)	5	0	5
Chemistry 1 (Gen. Chem.)	3	4	5
Math. 101 (Engr. Math. I)	5	0	5
M. E. 101 (Engr. Graphics)	0	4	2
Mech. T. 121 (Machine Shop I)	0	4	2
	13	12	19

SECOND QUARTER

	C	L	Q
Chemistry 2 (Gen. Chem.)	3	4	5
Physics 24 (General Physics)	5	2	6
Math. 102 (Engr. Math. II)	5	0	5
M. E. 102 (Engr. Graphics)	0	4	2
Mech. T. 122 (Machine Shop II)	0	4	2
	13	14	20

THIRD QUARTER

English 2 (Comp. and Rhetoric)	5	0	5
Physics 25 (General Physics)	5	2	6
M. E. 103 (Engr. Graphics)	0	4	2
Ind. T. 111 (Industrial Safety)	3	0	3
Mech. T. 223 (Machine Shop III)	0	4	2
	13	10	18

FOURTH QUARTER

Ind. T. 131 (Methods Improve.)	3	0	3
Mech. T. 111 (Manufact. Proc.)	3	0	3
Mech. T. 131 (Wood Shop)	0	4	2
Mech. T. 212 (Mechanics of Matls.)	5	0	5
Mech. T. 214 (Tool Design I)	2	2	3
Mech. T. 241 (Machine Draw. I)	2	2	3
	15	8	19

FIFTH QUARTER

English 10 (Technical Writing)	3	0	3
Ind. T. 121 (Organ. & Mgmt.)	3	0	3
Ind. T. 233 (Motion & Time Study)	4	0	4
Mech. T. 215 (Tool Design II)	0	4	2
Mech. T. 232 (Pattern Shop)	0	4	2
Mech. T. 242 (Machine Draw. II)	0	4	2
	10	12	16

SIXTH QUARTER

Elec. T. 291 (Indust. Elec.)	3	2	4
Ind. T. 232 (Production Plan.)	3	0	3
Mech. T. 213 (Metallurgy)	3	2	4
Mech. T. 216 (Inspection Meth.)	3	0	3
Mech. T. 224 (Sheet Metal Shop)	0	4	2
Mech. T. 225 (Welding Shop)	0	4	2
	12	12	18

DESCRIPTION OF COURSES

(Note: Figures in parentheses represent quarter hours.)

BOTANY

BOTANY 1: (5) Plant Biology

A study of the structure and function of plants, their evolution and a survey of fundamental biological facts and principles. The every day, every season aspects of plants and their relation to the human race are stressed. Elements of horticulture and conservation practices are discussed. Four lectures and two laboratory hours a week.

BOTANY 41: (6) Plant Biology

To be taken instead of Botany 1 by students intending to major in the natural sciences. An introduction to the structure, physiology, and classification of plants. Four lecture and four laboratory and field trip hours a week.

BUSINESS ADMINISTRATION

BUSINESS ADMINISTRATION 1: (5) Introduction to Accounting

Topics covered include the theory of debits and credits and the construction of the trial balance, work sheet, profit and loss statement, and balance sheet. The problems and materials used are characteristic of the single proprietorship form of business organization.

Three lecture and four laboratory hours a week.

BUSINESS ADMINISTRATION 3: (5) Principles of Advertising

A survey of all forms of advertising. Principles of layout; copywriting; production methods; campaign preparation; media selection.

BUSINESS ADMINISTRATION 4: (3) Selling

Fundamental principles of wholesale and retail selling. Each student selects a sales proposition to analyze and sell to a qualified customer.

BUSINESS ADMINISTRATION 5: (5) Business Law

A study of the main principles of law which govern the daily conduct of business with emphasis on contracts and agency.

BUSINESS ADMINISTRATION 6: (5) Retail Merchandising

This course involves such problems as store location, store layout, store organization and management, merchandise control, buying, pricing, and ethical standards in retailing.

BUSINESS ADMINISTRATION 7: (3) MERCHANDISE INFORMATION—TEXTILE FABRICS

Required of those planning to enter department store work or other businesses handling textile fabrics or clothing. This course will cover fibers and fabric construction. It will be applied to merchandising of fabrics and clothing, fashion coordination and interior decoration.

BUSINESS ADMINISTRATION 8: (3) MERCHANDISE INFORMATION—NON-TEXTILES

Various types of information with emphasis on sources of information and methods of keeping up to date. Special project method to be used.

BUSINESS ADMINISTRATION 9: (4) ADVERTISING PRACTICE WORKSHOP

Prerequisite: Business Administration 3

Students practice with advertising layout, production, and copy problems on the basis of a simple formula and procedure, making layouts following a given style, handling production for specific media such as newspapers, writing copy following a given style employing procedures used in an advertising agency or office.

BUSINESS ADMINISTRATION 21-22: (5 each) ACCOUNTING PRINCIPLES

Prerequisite: Business Administration 1

The fundamental principles of accounting are reemphasized and special attention is given to the partnership form of business organization, both from the point of view of the nature of the partnership and from the point of view of the accounting problems peculiar to the partnership form of organization. The corporation is considered and attention is given to the general characteristics and to the fundamental problems of corporation accounting. Three lecture and four laboratory hours a week.

BUSINESS ADMINISTRATION 24: (5) SALES MANAGEMENT

Organization of a sales department; assignment of responsibilities; techniques of selecting the sales force; equipping and training salesmen; territories, routes, compensation; methods of stimulating salesmen; methods of sales control and sales promotion; relation of sales manager to other department heads in an organization.

BUSINESS ADMINISTRATION 26: (5) ORGANIZATION AND OPERATION OF SMALL BUSINESS

The importance of small business, its problems and requirements. Among the topics covered are financing and organizing the business; selecting the location and arranging the layout; establishing policies for pricing, promotion, control, and credit; regulations and taxes; records and record keeping. Application is made to retail, wholesale, and service businesses.

BUSINESS ADMINISTRATION 28: (5) PUBLIC RELATIONS
A study of public relations principles and practices with special attention to its tools, media, responsibilities, and potentialities.

BUSINESS ADMINISTRATION 31: (5) PERSONNEL MANAGEMENT
This course provides job instruction training to improve the supervisor's efficiency in training personnel; supervisory techniques to help the supervisor develop his ability to lead his personnel more effectively; planned discussion and demonstrations of tested techniques to be used in solving problems arising from human relations; employment techniques to assist personnel manager in interviewing, testing, making job analyses, and keeping personnel records.

BUSINESS EDUCATION

BUSINESS EDUCATION 15-16: (5 each) BEGINNING TYPEWRITING
The work in beginning typewriting includes learning the keyboard, operating the parts of the machine, care of the machine, writing simple letters, simple tabulation, continuity writing. In this course more stress is given to accuracy than to speed.

BUSINESS EDUCATION 17-18: (5 each) BEGINNING SHORTHAND
Dictation is begun early in the course, stressing accuracy and form in shorthand penmanship. A consistent speed of sixty words a minute on new material with ninety-five per cent accuracy is required.

BUSINESS EDUCATION 25-26: (5 each) ADVANCED TYPEWRITING
The work includes study of different styles of business letters, manuscript copy, making carbon copies, tabulation, business reports, legal documents, effective display of typed matter. At the end of this course the students are expected to do straight copy at fifty-five words per minute with a minimum of errors.

BUSINESS EDUCATION 27-28: (5 each) ADVANCED DICTATION
The course consists of dictation and transcription with a thorough review of shorthand theory. Accuracy, speed, neatness, and comprehension are developed. Intensive drill is given in the production of mailable transcripts. A minimum dictation rate of one hundred words per minute must be consistently maintained with a high percentage of accuracy.

BUSINESS EDUCATION 32: (5) OFFICE MACHINES

A fair degree of skill is developed in the use of machines such as dictating machines, adding and calculating machines, duplicating machines, filing equipment, and miscellaneous.

BUSINESS EDUCATION 33: (5) OFFICE PRACTICE

Prerequisite: Business Education 15-16 and Business Education 17-18

An effort is made to observe and direct the student in developing those characteristics and personality traits which are desirable and essential in the business office. The main phases of study are office behavior, office methods and procedure, and civil service training. Whenever possible actual office situations are created so that the student is trained not in theory alone, but in practice.

CHEMISTRY

CHEMISTRY 1-2: (5 each) GENERAL CHEMISTRY

Prerequisite or co-requisite for Chemistry 1: Math 7 or Math 101

Fundamental principles, theories, and laws of chemistry; occurrence, preparation, properties, and uses of selected elements and their compounds; equilibrium, oxidation and reduction; metallurgy; introduction to organic and nuclear chemistry. Three lecture and four laboratory hours a week.

CHEMISTRY 31: (6) QUALITATIVE ANALYSIS

Prerequisite: Chemistry 1-2 or equivalent
Prerequisite or co-requisite: Math 8 or Math 102

Reactions of electrolytes in solution, chemical equilibrium, semi-microanalytical techniques, identification of common cations and anions. Eight unknowns. Three lecture and six laboratory hours a week.

CHEMISTRY 41: (6) QUANTITATIVE VOLUMETRIC ANALYSIS

Prerequisite: Chemistry 31

Volumetric analyses of potassium hydrogen phthalate by alkalimetry, soda ash by acidimetry, iron and calcium by permanganate redox, antimony by iodimetry, chloride by Volhard method, and nitrogen by Kjeldahl method. Seven unknowns.

Three lectures and six laboratory hours a week.

CHEMISTRY 42: (6) QUANTITATIVE GRAVIMETRIC AND INSTRUMENTAL ANALYSIS

Prerequisite: Chemistry 41
Prerequisite or co-requisite: Physics 25 or Physics 202

Gravimetric analyses of chloride, iron, and sulfur; analysis of copper by electrodeposition; analysis of manganese in steel by visual and electrical colorimetry; determination of iron by the classical potentiometric ceric method; titration of phosphoric acid by the pH meter. Seven unknowns.

Three lectures and six laboratory hours a week .

CIVIL TECHNOLOGY

CIVIL TECHNOLOGY 111: (2) CONSTRUCTION MATERIALS

This course is designed to familiarize the student with materials of construction and their methods of manufacture.

CIVIL TECHNOLOGY 112: (3) ELEMENTARY SURVEYING I

This is the beginning course in surveying and introduces the student to the use, adjustment, and care of instruments. The student is given field problems involving the use of chains, tapes, levels, and transits.

CIVIL TECHNOLOGY 122: (3) ELEMENTARY SURVEYING II

The work begun in Civil Technology 112 is carried on and completed in this course.

CIVIL TECHNOLOGY 132: (3) PLANE SURVEYING

Prerequisite: Civil Technology 122

Topics covered in this course include land surveying, traverse lines, elementary astronomical surveying, and city surveying.

CIVIL TECHNOLOGY 211: (2) GRAPHIC STATICS

Prerequisites: Physics 24 and Mechanical Engineering 103

Structural problems are solved by graphical methods of calculating reactions, resultants, and stresses.

CIVIL TECHNOLOGY 212: (3) HIGHWAY CONSTRUCTION

Prerequisite: Civil Technology 132 or
Co-requisite: Civil Engineering 201

General highway construction, including location, drainage, grading, surfacing, and maintenance are surveyed in this course.

CIVIL TECHNOLOGY 213: (3) HEAVY EQUIPMENT

Prerequisite: Civil Technology 111

This course familiarizes the student with the use and maintenance of heavy construction equipment as well as construction planning for large and small jobs.

CIVIL TECHNOLOGY 216: (5) ROUTE SURVEYING

Prerequisite: Civil Technology 132

A study is made of all phases of surveying concerned with highway location and construction. The student is given field practice which includes all the steps in route surveying from the reconnaissance and preliminary survey to superelevation and the setting of the grade.

CIVIL TECHNOLOGY 221: (2) STRUCTURAL DRAWING I

Prerequisite: Mechanical Engineering 103

Topics covered include structural steel plans, shop detail drawings of beams and beam connections, concrete floor systems, and working drawings of concrete members.

CIVIL TECHNOLOGY 223: (4) STEEL AND TIMBER CONSTRUCTION

Prerequisites: Civil Technology 211 and Mechanical Technology 212

Beam and column design with special attention to fasteners, trusses, and steel frameworks is covered in this course.

CIVIL TECHNOLOGY 224: (1) MATERIALS LABORATORY I

Prerequisites: Civil Technology 111 and Mechanical Technology 212

This course covers the design and testing of cement mixtures as well as testing of soils, aggregates, cement, concrete, and other materials.

CIVIL TECHNOLOGY 225: (3) HYDRAULICS

Prerequisites: Physics 24 and Mechanical Technology 212

A study is made of the basic principles of hydraulics and their effect on static pressure, pipes, channels, and weirs.

CIVIL TECHNOLOGY 226: (5) CONSTRUCTION SURVEYING

Prerequisite: Civil Technology 132

The location of curbs and gutters, a study of drainage control, and the laying out of water and sewerage systems are among the subjects covered in this course.

CIVIL TECHNOLOGY 227: (3) MAPPING

Prerequisites: Civil Technology 132 and Mechanical Engineering 103

Contour, boundary, and profile mapping are taught in this course. The use of map projection and aerial photographs will be surveyed also.

CIVIL TECHNOLOGY 231: (2) STRUCTURAL DRAWING II

Prerequisite: Civil Technology 221

The work begun in Civil Technology 221 is carried on and completed in this course.

CIVIL TECHNOLOGY 232: (4) CONCRETE CONSTRUCTION

Prerequisite: Mechanical Technology 212

The student is given instruction in the properties of reinforced and prestressed concrete including calculation of stresses in beams, columns, and slabs.

CIVIL TECHNOLOGY 233: (4) COST ESTIMATING

Prerequisite: Civil Technology 111
Co-requisite: Civil Technology 231

A survey of material and labor costs is made in this course. The student prepares material and labor cost estimates from drawings and specifications.

CIVIL TECHNOLOGY 234: (1) MATERIALS LABORATORY II

Prerequisite: Civil Technology 224

This is the second quarter of a two-quarter course in materials testing. The work begun in Civil Technology 224 is completed in this course.

CIVIL TECHNOLOGY 235: (3) WATER AND SEWAGE

Prerequisites: Chemistry 2 and Civil Technology 225

The principles of water and sewage treatment as well as a study of water and sewage plant operation are covered in this course.

CIVIL TECHNOLOGY 236: (5) TOPOGRAPHIC SURVEYING

Prerequisite: Civil Technology 132

Procedures studied in this course are cross-section surveys, transit-stadia surveys, the plane-table method, and the photogrammetric method.

ECONOMICS

ECONOMICS 1: (5) BUSINESS ECONOMICS

This course covers the economics of distribution, an examination of marketing channels, sources and use of business publications and other materials as applied to the solution of distribution problems.

ECONOMICS 31-32: GENERAL ECONOMICS

The organization and underlying principles of modern economic life, with emphasis upon the operation of the private enterprise system. The production, exchange, distribution, and consumption of wealth, the allocation of resources, and auxiliary economic problems.

EDUCATION

EDUCATION 41: (5) INTRODUCTION TO THE STUDY OF EDUCATION

This is an orientation course designed to help develop an understanding of the philosophy and procedures of public education.

ELECTRICAL TECHNOLOGY

ELECTRICAL TECHNOLOGY 111: (3) BASIC ELECTRICITY

An introduction to the basic terminology, concepts, and principles of direct-current electricity. Fundamental relationships between voltage, current, power, and energy in elementary direct-current electrical circuits are established with emphasis on problem application.

ELECTRICAL TECHNOLOGY 112: (4) DIRECT-CURRENT CIRCUITS

Prerequisite: Electrical Technology 111

An introduction to the basic terminology, concepts, and principles of electrical and magnetic fields; properties and characteristics of capacitors, coils and magnets. The laboratory period is devoted to instruction in laboratory practices and direct-current instrumentation.

ELECTRICAL TECHNOLOGY 121: (5) ALTERNATING-CURRENTS CIRCUITS I

Prerequisite: Electrical Technology 112 and Mathematics 102

This course covers the fundamentals of alternating current theory and practices as applied to single-phase circuits. The laboratory period is devoted to instruction in laboratory practices and alternating-current instrumentation.

ELECTRICAL TECHNOLOGY 131: (4) BASIC ELECTRONICS

Prerequisite: Electrical Technology 112 and Mathematics 102

The student is given a basic course in the control of free electrons in elementary electronic circuits. Characteristics of tubes, semi-conductors, and circuit analysis of rectifier circuits are studied.

ELECTRICAL TECHNOLOGY 141: (4) SWITCHING CIRCUIT ANALYSIS

Co-requisites: Electrical Technology 121 and Electrical Technology 131

Terminology, classification, properties, and characteristics of switches and relays. Introduction to the mathematics of logic, binary numbers and Boolean algebra. Techniques for the design, analysis and simplification of basic switching circuits.

ELECTRICAL TECHNOLOGY 222: (5) ALTERNATING-CURRENT CIRCUITS II

Prerequisite: Electrical Technology 121
Co-requisite: Mathematics 114

Advanced alternating-current theory and practice as applied to single-phase and polyphase circuits. Further analysis of series and parallel circuits using complex notation. Admittance, conductance and susceptance; anti-resonance circuits. Coupled-circuit theory, mutual inductance, impedence transformation, reflected impedance, transformer theory. Construction, classification, regulation, loss determination, and efficiency of single-phase transformers. Polyphase circuits and transformer connections.

ELECTRICAL TECHNOLOGY 232: (4) INDUSTRIAL ELECTRONICS

Prerequisite: Electrical Technology 131
Co-requisite: Electrical Technology 222

Study of basic industrial electronic circuits and application of these circuits to such devices as electronic timers, voltage regulators, electrostatic air cleaners, motor and generator control systems, web and register control systems, photoelectric systems, single-phase and polyphase rectifiers.

ELECTRICAL TECHNOLOGY 233: (4) ADVANCED ELECTRONICS I

Prerequisites: Electrical Technology 232 and Mathematics 114

A study of the analysis and design of physical systems, which includes the ideal diode, practical rectifiers, ideal amplifiers, basic vacuum-triode amplifiers, practical triode amplifiers, practical transistor amplifiers and multigrid vacuum tubes is made in this course.

ELECTRICAL TECHNOLOGY 234: (4) ADVANCED ELECTRONICS II

Prerequisite: Electrical Technology 233

This course includes piecewise-linear circuit analysis, systematic analysis of linear electronics circuits, network theorems, frequency dependance of single-stage amplifiers, frequency dependence of cascaded amplifiers, nonsinusoidal signals, transient response, and feedback amplifiers.

ELECTRICAL TECHNOLOGY 242: (3) COMPUTER TECHNOLOGY I

Prerequisite: Electrical Technology 141

Survey of the theory of operation, principles, practices, and applications of digital computers.

ELECTRICAL TECHNOLOGY 243: (3) COMPUTER TECHNOLOGY II

Prerequisite: Electrical Technology 242

Survey of the theory of operation, principles, practices, and applications of analogue computers.

ELECTRICAL TECHNOLOGY 251: (4) ELECTRICAL MACHINERY

Prerequisite: Electrical Technology 222

Construction, characteristics, operation and control, and industrial applications of direct-current motors and generators. Survey of the construction, characteristics, operation and control and industrial applications of alternating-current motors and generators.

ELECTRICAL TECHNOLOGY 252: (4) ALTERNATING-CURRENT MACHINERY I

Co-requisite: Electrical Technology 251

The study of polyphase induction motors and single phase motors including construction, characteristics, operation and control, and industrial applications. Laboratory tests are conducted to study operating principles and determine performance characteristics.

ELECTRICAL TECHNOLOGY 253: (5) ALTERNATING-CURRENT MACHINERY II

Prerequisite: Electrical Technology 252

A study of the design, operating principles, performance characteristics and industrial applications of synchronous motors, synchronous generators, synchronous converters, synchros, servomotors, and amplidynes together with their motor-starting, switching and protective devices. Laboratory tests are conducted on these units.

ELECTRICAL TECHNOLOGY 261: (4) TELEPHONE TECHNOLOGY

Co-requisites: Electrical Technology 222 and Mathematics 114

A study of the operating principles of telephone equipment and circuits, local-battery and common-battery manual offices, automatic dial systems, audio-frequency concepts and techniques. Matched-circuit analysis of lumped-constant and distributed-constant transmission lines. Design of pads, attenuators and filters. Thebenin's and Norton's Theorems.

ELECTRICAL TECHNOLOGY 262: (4) MICROWAVE TECHNOLOGY I

Prerequisite: Electrical Technology 261

High-frequency transmission-line concepts and practical applications. Impedance-matching, transmission-line circle diagram, propagation, standing waves, basic antenna theory, antennas for low-frequency and high-frequency applications, and high-frequency measuring techniques.

ELECTRICAL TECHNOLOGY 263: (4) MICROWAVE TECHNOLOGY II

Prerequisite: Electrical Technology 262

This is the advanced course in microwave theory. Subjects covered include microwave techniques, theory and practice in pulse circuits, radar transmitting and receiving systems, and synchronization.

ELECTRICAL TECHNOLOGY 271: (3) BLUEPRINT READING

Co-requisite: Electrical Technology 272

A study of the practices, techniques, conventions, interpretation, and preparation of blueprints, with emphasis on electrical layout and estimating.

ELECTRICAL TECHNOLOGY 272: (4) ELECTRICAL CODES

Prerequisite: Electrical Technology 222
Co-requisite: Electrical Technology 251

A study of wiring and wiring methods used in buildings. The course material includes wire sizes, types of insulation, electrical fittings, service entrances, distribution centers, branch circuit layout, switching arrangements, motor control circuits, and a thorough examination of the recommendations of the National Electrical Code and the National Electrical Manufacturers Association with illustrative applications of wiring procedures.

ELECTRICAL TECHNOLOGY 273: (4) ILLUMINATION

Co-requisite: Electrical Technology 272

A study of illumination principles and practices. Modern illumination principles, calculations and equipment are coordinated in design problems of complete fluorescent and incandescent lighting installations.

ELECTRICAL TECHNOLOGY 274: (5) ELECTRIC POWER DISTRIBUTION

Prerequisite: Electrical Technology 272

A study of the fundamental principles of electric power transmission and distribution including the calculation of short and medium length polyphase lines; the study of types and classes of loads, distribution networks, transformer connections and operation, voltage control, and protecting equipment; the study of mechanical principles involved in network design and the study of economic principles of distribution.

ELECTRICAL TECHNOLOGY 275: (3) ELECTRICAL DRAWING I

Prerequisite: Mechanical Engineering 101
Co-requisite: Electrical Technology 222

A study of the practices, techniques, conventions, interpretation, and preparation of electrical drawings, with emphasis on electrical layout and estimating.

ELECTRICAL TECHNOLOGY 276: (2) ELECTRICAL DRAWING II

Prerequisite: Electrical Technology 275

This course is a continuation of Electrical Technology 275. The student is given assignments which he completes on the drawing board.

ELECTRICAL TECHNOLOGY 281: (4) RADIO TECHNOLOGY I

Prerequisites: Electrical Technology 232 and Electrical Technology 261

Voltage amplification as applied to audio-frequency and radio-frequency circuits. Analysis of amplifier circuits and coupling methods, radio-frequency tuning circuits, regenerative and degenerative circuits, decoupling networks, basic oscillator circuits, and comprehensive study of construction, tuning, and alignment of radio receivers through superheterodyne.

ELECTRICAL TECHNOLOGY 282: (4) RADIO TECHNOLOGY II

Prerequisite: Electrical Technology 281

An advanced study of radio-communication circuits is made in this course. Characteristics of amplitude-modulated transmitters, power amplifiers, phase inverters, and modulator circuits as well as broadcast studio techniques and control room equipment are covered.

ELECTRICAL TECHNOLOGY 283: (6) TELEVISION TECHNOLOGY

Co-requisite: Electrical Technology 263

The course includes principles of frequency-modulation, methods of modulation and demodulation, FM transmitter and receiver circuits, and FCC standards for television transmission. A detailed study of television transmitting and receiving equipment, including color television components, is made.

ELECTRICAL TECHNOLOGY 291: (4) INDUSTRIAL ELECTRICITY

Prerequisites: Mathematics 102 and Physics 25

A study of electrical fundamentals, circuit analysis, electrical machinery, control circuits, and industrial applications of electrical equipment.

ENGINEERING

C.E. 201-202-203: (3 each) SURVEYING I, II, III

Prerequisite: Mathematics 101

Elements of plane surveying including taping, transit, level, stadia, plane table, topographic surveying and mapping, care and adjustment of instruments; construction surveys; earthwork computations; route surveys and design; simple, compound, parabolic, and spiral curves; chainage equations. One lecture, two problem, and three laboratory hours a week.

E.E. 201-202-203: (4 each) ELEMENTARY FIELDS AND CIRCUITS

Co-requisites: Mathematics 201, Physics 201
Required of sophomores in electrical engineering

Fundamental laws of electric circuits, magnetic circuits, electric fields, and magnetic fields. Introduction to steady-state alternating-current circuit theory. Two lecture, two problem, and three laboratory hours a week.

E.M. 211: (5) MECHANICS I (STATICS)

Prerequisites: Physics 201, Mathematics 201

Study of the analytical and graphical solution for the resultant and equilibrium of concurrent, parallel, and non-concurrent non-parallel force systems under coplanar or non-coplanar conditions. The application of statics to pin connected members, trusses, and cables; friction; centroids; and moments of inertia. Shear and bending moment equations and diagrams.

M.E. 101-102-103: (2 each) ENGINEERING GRAPHICS

The major areas that will be covered in this work include: instrument practice, geometric construction, orthographic projection, sections, auxiliary views, pictorial drawing, details and assemblies, charts, graphs, freehand sketching, dimensioning, true length, true slope and line as a point, edge view and true size of a plane, shortest distances between lines, a line piercing a plane, intersection of planes, dihedral angle, shortest distances to a plane, angle between a line and a plane, revolution, development of surfaces, intersection of solids, mining problems, aeronautical problems, miscellaneous problems.

ENGLISH

ENGLISH R: (0) REFRESHER ENGLISH

Required of all students who by entrance examination fail to qualify for English 1. Special emphasis will be given to review of grammar, of reading, and of writing.

ENGLISH 1-2: (5 each) ENGLISH COMPOSITION AND RHETORIC

Required of all freshmen. The first quarter's work consists of a review of English fundamentals, frequent themes, and the study of various types of essays. The second quarter's work is essentially a course in composition and rhetoric.

ENGLISH 3-4: (5 each) ENGLISH LITERATURE

Prerequisite: English 1-2

In the first quarter Chaucer, Shakespeare, and Milton are studied; in the second quarter, the major writers of the nineteenth century.

ENGLISH 9: (3) PUBLIC SPEAKING

Composition and delivery of original speeches.

ENGLISH 10: (3) TECHNICAL WRITING

Study of the fundamentals of technical writing style and mechanics with practice in preparing reports of the various types most likely to be used on the job by technicians.

ENGLISH 21: (5) ENGLISH OF BUSINESS

A study of the fundamentals of grammar and specific application to business documents and other business papers, the editing of business materials, proofreading, and corrections.

JOURNALISM 1-2: (5 each) NEWS GATHERING AND REPORTING

Prerequisite: English 1-2

A general outline of the principles of newspaper practice, followed by daily work in news gathering, reporting, and writing of news stories. Regular work on the college newspaper is required. Practice work will be arranged with the Charlotte daily newspapers.

COLLEGE READING (0) READING IMPROVEMENT

A course enabling the individual to obtain a firm grasp of the skills of more efficient reading. Lecture-demonstrations are combined with actual laboratory work in which each participates in tachistoscopic training, electrically accelerated reading and other modern techniques for building greater speed and comprehension in reading.

FRENCH

FRENCH 1-2: (5 each) BEGINNERS' CONVERSATIONAL FRENCH

Study of the fundamentals of grammar and of phonetics through the practical and conversational use of French, with particular emphasis on correct pronunciation and self-expression.

FRENCH 3: (5) FRANCE AND THE FRENCH CIVILIZATION

Prerequisite: French 1-2 or 2 units of high school French

Study of the geography, economy, history, customs and culture of the French people. Review grammar. Conducted in French as much as possible.

FRENCH 4: (5) CONTEMPORARY FRENCH SHORT STORY

Prerequisite: French 3 or the equivalent

Reading and discussion of typical contemporary French short stories. Conducted in French as much as possible. Collateral reading of a French novel. Book report.

FRENCH 21: (5) READINGS IN CONTEMPORARY AND CLASSICAL FRENCH LITERATURE

Prerequisite: French 4 or the equivalent

Reading and discussion of short stories, drama, short novel, by outstanding French writers. Conducted in French as much as possible. Collateral reading of two novels. Book reports.

FRENCH 22: (5) INTRODUCTION TO FRENCH LITERARY MASTERPIECES

Prerequisite: French 21 or the equivalent

Readings from the great classical writers, prose and verse. Conducted in French. Collateral reading of two French classical works. Book reports.

GEOGRAPHY

GEOGRAPHY 38: (6) INTRODUCTION TO GEOGRAPHY

Besides a basic knowledge of places and products associated with them, the student is instructed in the elements of weather and climate. The relation of man to his environment and its effects on him are stressed. Five lecture and two laboratory hours a week.

GEOLOGY

GEOLOGY 41: (6) PHYSICAL GEOLOGY

The origin of the various rocks, the formation and erosion of natural land features, and the forces of erosion are the chief matters presented in this beginning course. Earthquakes, hurricanes, volcanoes, and similar phenomena are discussed. Five lecture and two laboratory hours a week.

GEOLOGY 42: (6) HISTORICAL GEOLOGY

Prerequisite: Geology 41

Historical geology places emphasis upon earth origin, study of the origin and occurrence of fossils, and the history of the earth as determined by various means. Five lecture and two laboratory hours a week.

HISTORY

HISTORY 1: (5) MAN'S HISTORY TO 1815

A survey of the history of man from the earliest times to 1815 in Europe, in Asia, and in the Americas.

HISTORY 2: (5) CONTEMPORARY CIVILIZATION

A study of world civilization since 1815.

HISTORY 21: (5) AMERICAN HISTORY

History of the United States before 1865.

HISTORY 22: (5) AMERICAN HISTORY

History of the United States from 1865 to the present time.

INDUSTRIAL TECHNOLOGY

INDUSTRIAL TECHNOLOGY 111: (3) INDUSTRIAL SAFETY

A study of the basic principles of industrial accident prevention considering the nature and extent of the accident problem. The course covers mechanical safeguards, fire prevention, occupational disease, hygiene and first aid, safety codes, compensation, safety education programs, and fundamentals of good safety organization.

INDUSTRIAL TECHNOLOGY 121: (3) ORGANIZATION AND MANAGEMENT

The student is given an overall view of the typical industrial organization, with particular emphasis on interrelationship of functions and principles of management. Efficient co-ordination and control through application of the latest developments in industrial technology are stressed.

INDUSTRIAL TECHNOLOGY 131: (3) METHODS IMPROVEMENT

A study of principles and techniques used in production including batch and mass production techniques, practice in writing standard procedure, raw material specifications and manufacturing instructions. The application of the "questioning attitude" in search for better manufacturing methods and job procedures and the four-step method of job improvement are also studied.

INDUSTRIAL TECHNOLOGY 222: (3) SALES AND PURCHASING

A study of the problems encountered in the sales field that require technical or engineering skills and knowledge in their solution. The course covers the methods and principles of industrial sales and service engineering; the nature of the purchasing function, including the art of interview and conference, sources of purchasing information, forecasting ultimate values, and reciprocity purchasing.

INDUSTRIAL TECHNOLOGY 223: (3) CONTRACTS AND SPECIFICATIONS

The general laws of contracts, agency, sales agreements, and engineering specifications as incorporated into contracts; the business, legal, and ethical phases of engineering.

INDUSTRIAL TECHNOLOGY 232: (3) PRODUCTION PLANNING

Evaluation of manufacturing methods and the analysis of machining operations are covered in detail. The course is divided into the following parts: estimating, study of machining elements, and study of machining operations.

INDUSTRIAL TECHNOLOGY 233: (4) MOTION AND TIME STUDY

Prerequisites: Industrial Technology 131 and Mechanical Technology 223

A study of the principles of motion economy, methods of motion study and micro-motion study, use of standard data and formula construction. The course covers the fundamentals of stop watch time study; effort rating; uses of time study; and the use of synthetic systems of time study.

INDUSTRIAL TECHNOLOGY 241: (3) SUPERVISORY TRAINING

A study of line of responsibility and authority, technique of job instruction, personal leadership, technique of conducting a conference, how to produce for a profit. The subject treats problems of the supervisor as cost man, as safety man, as production man, as quality man, as personnel man, as the manager of his department.

MATHEMATICS

MATHEMATICS A: (0) PLANE GEOMETRY

Five hours a week.

MATHEMATICS B: (0) PLANE AND SOLID GEOMETRY

Five hours a week.

MATHEMATICS G: (0) SOLID GEOMETRY
Five hours a week.

MATHEMATICS R: (0) INTERMEDIATE ALGEBRA
Five hours a week.

MATHEMATICS 1: (5) BUSINESS MATHEMATICS
Application of mathematics to typical accounting, financial, and other business problems, including bank discounts, trade discounts, weighted averages, merchandise markup and turnover, application of compound interest principles to annuity, sinking fund, and amortization problems.

MATHEMATICS 7: (5) COLLEGE ALGEBRA
Functions and their graphs, equations and their solutions, systems of linear equations, determinants, exponents, quadratic equations, inequalities, variation, progressions, mathematical induction, binomial theorem, complex numbers, theory of equations.

MATHEMATICS 7X: (5) COLLEGE ALGEBRA
Designed for Engineering students.

MATHEMATICS 8: (5) PLANE TRIGONOMETRY
Identities, reduction and addition formulas, graphs, trigonometric equations, inverse trigonometric functions, solution of right and oblique triangles.

MATHEMATICS 31: (5) PLANE ANALYTIC GEOMETRY
Prerequisite: Mathematics 7 and 8

MATHEMATICS 32: (5) DIFFERENTIAL CALCULUS
Prerequisite: Mathematics 31

MATHEMATICS 33: (5) INTEGRAL CALCULUS
Prerequisite: Mathematics 32

MATHEMATICS 101-102-103: (5 each) FRESHMAN ENGINEERING MATHEMATICS I, II, III

The first quarter and a half of this course is a combined course in College Algebra and Trigonometry; the last quarter and a half is the first third of a unified course in Analytic Geometry and Calculus. Topics studied include systems of equations involving quadratics, inequalities, variation, binomial theorem, progressions; logarithms, linear equations and determinents, theory of equations; trigonometric functions of general angle, identities and multiple angle relations, radian measure, inverse trigonometric functions, solution of triangles with emphasis on laws of sines and cosines; rectangular coordinates in the plane, with graphs and equations of lines, algebraic curves, including the conic sections and others examined by general discussion methods; functions, limits, continuity, differentiation of algebraic functions, with applications of derivatives and differentials.

MATHEMATICS 113: (6) ANALYTIC GEOMETRY AND CALCULUS

Prerequisite: Mathematics 8

A one quarter survey course in analytic geometry and the differential and integral calculus.

MATHEMATICS 114: (5) ELECTRONIC MATHEMATICS

Prerequisite: Mathematics 103

A one quarter syrvey course, which includes integral calculus, electronic applications of calculus, the algebra of circuit analysis, elementary differential equations, and an introduction to Boolean algebra, gives the student practical problems with electrical applications.

MATHEMATICS 201-202-203: (5 each) SOPHOMORE ENGINEERING MATHEMATICS I, II, III

Proerequisite: Mathematics 103 (With a minimum grade of C)

The last two-thirds of a unified course in Analytic Geometry and Calculus. Topics studied include indefinite and definite integrals of algebraic functions and their applications; differentiation of transcendental functions; polar coordinates; parametric equations, curvilinear motion and curvature; formal integration; integration by parts, substitution, and partial fractions; areas, volumes, lengths of curves, centroids, moments of intertia in rectangular and polar coordinates; approximate integration, improper integrals, indeterminate forms; infinite series and expansion of functions; solid analytic geometry and partial differentiation; multiple integrals in rectangular, cylindrical and spherical coordinates.

MECHANICAL TECHNOLOGY

MECHANICAL TECHNOLOGY 111: (3) MANUFACTURING PROCESSES

The technical fundamentals of the important manufacturing processes are covered in this course. Engineering materials are discussed in connection with the modern machine tools necessary for the processing of these materials.

MECHANICAL TECHNOLOGY 121: (2) MACHINE SHOP I

An introduction to general metal work, the use and care of hand tools, maintenance of tools and equipment. The work is divided into four distinct phases: machine shop, bench metal, forging, and welding. Practical projects will be chosen for each phase using the greatst number and variety of operations. Lectures will be given on the use, manufacture, material made from, of all the common hand and machine tools that are used in the shop. These lectures are correlated with the shop work so the students will have a working knowledge of the tools they are using. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 122: (2) MACHINE SHOP II

Prerequisite: Mech. T. 121

A study of the fundamental machine operations of drilling, reaming, turning between centers, chuck work, thread cutting, layout, and finishing. Special attention is given to cutting speeds, tool and drill grinding, and machine maintenance. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 131: (2) WOOD SHOP

An introduction to woodwork designed to give students a background of basic woodworking processes. Topics include use of hand tools, sharpening and the upkeep of tools, basic woodworking principles of design and construction. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 212. (5) MECHANICS OF MATERIALS

Prerequisites: Physics 24 and Mathematics 102

This course covers the various physical properties of the common materials of industry. Structures and machines in equilibrium are considered, and internal stresses of pure compression or tension are evaluated. A study of coplanar forces and force systems, truss solutions, force systems in space, friction and centroids, direct stress, properties of materials, riveted and welded joints, torsion stresses in beams, beam deflections and columns.

MECHANICAL TECHNOLOGY 213: (4) METALLURGY

Prerequisites: Chemistry 2 and Mechanical Technology 223

A study of the fundamentals of metallurgy, grain size, effect of carbon content, and hardness testing devices. Different alloys will be tested to determine the effect of heat treated. Three lecture and two laboratory hours a week.

MECHANICAL TECHNOLOGY 214: (3) TOOL DESIGN I

Prerequisites: Mechanical Engineering 103 and Mechanical Technology 223

Co-requisite: Mechanical Technology 212

A study of the applications of principles of strength and rigidity that are necessary in machine tool elements. The theory of strength of materials is put into practice in designing the assigned problems.

MECHANICAL TECHNOLOGY 215: (2) TOOL DESIGN II

Prerequisite: Mechanical Technology 214

A study of the factors involved in large quantity production machine processes. This course is designed to give the student a thorough knowledge of the principles, practices, tools, and commercial standards of jig and fixture design.

MECHANICAL TECHNOLOGY 216: (3) INSPECTION METHODS

Prerequisite: Mechanical Technology 223

A study of the use and care of precision inspection instruments and methods of inspection. Types and methods of inspection are compared and discussed from samples chosen from industry as a comparison.

MECHANICAL TECHNOLOGY 223: (2) MACHINE SHOP III
Prerequisite: Mechanical Technology 122

Practical work in the use of gauges, taper turning, gear cutting, square thread cutting, and types of fits. The student will complete a project in advanced machine work. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 224: (2) SHEET METAL SHOP
Prerequisites: Mechanical Engineering 103 and Mechanical Technology 223

Shop problems in sheet metal layouts and methods of fabrication of sheet metal. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 225: (2) WELDING SHOP
Prerequisite: Mechanical Technology 223

Fundamentals of both arc and acetylene welding. A study of the most economical methods in regards to welding time, machinability, and ductility. Safe practices in welding, types of rods, and welding symbols are also covered.

MECHANICAL TECHNOLOGY 232: (2) PATTERN SHOP
Prerequisite: Mechanical Technology 131

This course is a basic study of pattern making. The student works in the lab to make different types of patterns and the various allowances, finish, and color code are co-ordinated. Four laboratory hours a week.

MECHANICAL TECHNOLOGY 241: (3) MACHINE DRAWING I
Prerequisite: Mechanical Engineering 103
Co-requisite: Mechanical Technology 212

A course in the drawing of gears, cams, linkages, and other machine parts, assembly drawing of small machines and exploded view drawings.

MECHANICAL TECHNOLOGY 242: (2) MACHINE DRAWING II
Prerequisite: Mechanical Technology 241

The work begun in Mechanical Technology 241 is completed in this course.

MUSIC

MUSIC 1-2-3, 21-22-23: (1 each) CHORUS

The Charlotte College Chorus provides opportunity for students who enjoy singing to gain basic training in the principles of voice production and choral participation. Repertoire includes both sacred and secular music, and public appearances are made each year through assembly programs, and radio presentations, and at baccalaureate and commencement exercises.

MUSIC 4-5-6: (1 each) INDIVIDUAL VOICE STUDY

Basic techniques in the study of singing; classification of the voice, breathing, posture, freedom and vitalization of tone, elements of diction, vocalization, simple songs in English and Italian. One hour of practice daily.

MUSIC 24-25-26: (1 each) INDIVIDUAL VOICE STUDY

More advance techniques in singing. Standard classics in English and Italian with additional study of songs in French or German or Spanish. Memorization of basic repertoire with application of sound principles of interpretation. One hour of practice daily.

PHILOSOPHY

PHILOSOPHY 41: (5) A SYSTEMATIC INTRODUCTION

A study in the major areas in Philosophy. There will be discussion of such typical problems as moral freedom, the mind-body relationship and the implications of the sciences. The historic schools of materialism, idealism, realism and pragmatism will be described.

PHILOSOPHY 42: (5) THE DEVELOPMENT OF PHILOSOPHY

A historical approach to philosophy through a study of selections from the works of great Western thinkers.

PHYSICS

PHYSICS 24-25: (6 each) GENERAL PHYSICS

Physics 24 covers mechanics, heat, and sound. Physics 25 covers electricity and magnetism, optics, and special topics. Five lecture and two laboratory hours a week through two quarters.

PHYSICS 201-202-203: (5 each) ENGINEERING PHYSICS

Co-requisite for Physics 201: Math 201
Co-requisite for Physics 202: Math 202
Co-requisite for Physics 203: Math 203

Emphasis is placed on problem solution and engineering applications. Recitations, demonstrated lectures, problem drill, and laboratory work are coordinated to give a working knowledge of physics. Physics 201, mechanics and heat; Physics 202, sound, magnetism, and electricity; Physics 203, optics and modern physics. Four lecture and demonstration periods and two laboratory hours a week.

POLITICAL SCIENCE

POLITICAL SCIENCE 41: (5) GOVERNMENT OF THE UNITED STATES

The origin, organization, and development of federal, state, and local government in the United States will be emphasized with particular attention given to the national government in action.

POLITICAL SCIENCE 42: (5) PROCESSES AND PROBLEMS OF GOVERNMENT IN THE UNITED STATES

Prerequisite: Political Science 41

This course deals chiefly with the efforts made by government in the United States to solve public problems. It treats particularly government policies toward agriculture, labor, social welfare, and international relations.

POLITICAL SCIENCE 51: (5) COMPARATIVE GOVERNMENT

Prerequisite: Political Science 41

A comparative study of foreign governments, especially in Great Britain, France, the United States, and Soviet Russia.

POLITICAL SCIENCE 52: (5) INTERNATIONAL RELATIONS AND WORLD POLITICS

Prerequisite: Political Science 41

The prerequisite may be waived upon the approval of the instructor. In this course diplomatic relations, international law, power politics, and efforts to achieve world organization will be studied.

PSYCHOLOGY

PSYCHOLOGY 1: (5) GENERAL PSYCHOLOGY

A study of the general characteristics and development of human behavior, emphasizing the problems of motivation, emotion, learning and thinking.

PSYCHOLOGY 2: (5) CHILD PSYCHOLOGY

This course includes a study of the instincts, emotions, and general tendencies of children up to the age of twelve or fourteen. Remedial measures are suggested for dealing with early tendencies that may lead to serious difficulty. Special study of at least one child will be made by every student.

PSYCHOLOGY 3: (5) SOCIAL PSYCHOLOGY

A study is made of the crowd, suggestion, the mob mind, conventionality, and custom imitation. The psychology involved in compromise, discussion, conflict, and war is especially investigated.

PSYCHOLOGY 21: (4) APPLIED BUSINESS PSYCHOLOGY

The general purpose of this course is to develop an understanding of people. Emphasis will be placed on the psychological principles which govern man's adjustment on his job and which promote successful merchandising through advertising and through selling. Studies of the motives which urge men to work and to purchase goods and services will be stressed. The practical aims will be to show how an employee may be aided in becoming adjusted to his job and how to persuade customers to purchase goods and services and be satisfied.

RELIGION

RELIGION 1: (5) SURVEY OF THE OLD TESTAMENT

An introduction to the literary and historic values of Old Testament literature. English translations will be used. The emphasis will be upon the background, purpose and content of the writings.

RELIGION 2: (5) SURVEY OF THE NEW TESTAMENT

A study of New Testament literature in its historic and contemporary background with emphasis upon the content and purpose of the text. English translations will be used.

SOCIOLOGY

SOCIOLOGY 51: (5) INTRODUCTION TO SOCIOLOGY

This course will include a survey of the field of sociology with special emphasis on the fundamental functions of society, the nature of culture, human nature, collective behavior, community life, and social control.

SOCIOLOGY 52: (5) SOCIAL PROBLEMS

The problems of population, the family, distribution of wealth and income, labor and management relationships, race relations, health, crime, juvenile delinquency, insanity and mental deficiency, social control, social planning, and democracy are investigated and studied.

SOCIOLOGY 53: (5) MARRIAGE AND THE FAMILY

This course considers the family as the basic unit of society. The following aspects are emphasized: comparative family structure, the influence of the family on personality development, trends with reference to marriage and divorce, family disorganization and the changing function of the home, the impact of war on the family, courtship and the factors determining the choice of a marriage partner, and the principles of marriage counseling. It is intended that this course shall serve the practical purpose of preparation for successful marriage and homemaking.

SOCIOLOGY 54: (3) HUMAN RELATIONS IN INDUSTRY

A course of training in the development of personality, ability to analyze problems involving human relations, and the development of good foundations for personnel relations. Actual cases of human relations problems in industry are studied with a view toward developing the technique of working with superiors, associates, and subordinates.

SPANISH

SPANISH 1-2: (5 each) BEGINNERS' CONVERSATIONAL SPANISH

Study of the fundamentals of grammar and of phonetics through the practical and conversational use of Spanish, with particular emphasis on correct pronunciation and self-expression.

SPANISH 3-4: (5 each) INTERMEDIATE CONVERSATIONAL SPANISH

Prerequisite: Spanish 1-2 or two units of high school Spanish

Review of Spanish grammar and reading of representative Spanish novels and plays.

SPANISH 21: (5) READING IN CONTEMPORARY SPANISH AND SPANISH-AMERICAN LITERATURE

Prerequisite: Spanish 4 or the equivalent

Reading and discussion of short stories, drama, short novel, by outstanding Spanish and Latin-American writers. Conducted in Spanish as much as possible. Collateral reading of two novels: one Spanish and one Latin-American. Book reports.

SPANISH 22: (5) INTRODUCTION TO SPANISH LITERARY MASTERPIECES

Prerequisite: Spanish 21 or the equivalent

Readings from the great classical writers, prose and verse. Conducted in Spanish. Collateral reading of two classical works: one Spanish and the other Latin-American.

ZOOLOGY

ZOOLOGY 1: (5) ANIMAL BIOLOGY

A study of the basic principles of zoology with special emphasis on man's place in the general scheme of animal life. The elements of parasitology, genetics, and animal breeding are stressed. Four lecture and two laboratory hours a week.

ZOOLOGY 41: (6) INTRODUCTORY VERTEBRATE ZOOLOGY

Not Open to Freshmen

Fundamentals of vertebrate anatomy, physiology, histology, embryology, classification, and homolgy. Four lecture and four laboratory hours a week.

ADULT EDUCATION

The adult education program of Charlotte College endeavors to provide for the residents of Charlotte, both young and old, courses desired for increased vocational competency and cultural development. The present program offers a variety of courses, and others will be added as the need for them arises. These classes have no educational prerequisites, and most of them give no college credit either for graduation or transfer.

MANAGEMENT PROBLEMS IN THE OPERATION OF A BUSINESS

The purpose of this course is to help the owners and managers of businesses to analyze and attempt to find logical solutions to some of their problems.

RADIO AND TELEVISION ANNOUNCING

A course designed to introduce the student to the fundamentals of radio and television speech, with various techniques of delivery. Recordings are made of the student's work for critical analysis. No prerequisite. 3 hours per week.

READING FOR BUSINESS AND PROFESSIONAL MEN AND WOMEN

A nine weeks course enabling the individual to obtain a firm grasp of the skills of more efficient reading. Lecture-demonstraitons are combined with actual laboratory work in which each participates in tachistoscopic training, electrically accelerated reading and other modern techniques for building greater speed and comprehension in reading.

REVIEW CLASS FOR NORTH CAROLINA ENGINEERING REGISTRATION EXAMINATION

The forty-two hours of work in this course will include a review of the fundamentals of engineering.

ROSTER OF STUDENTS

Associate of Arts Titles Conferred

June 6, 1960

BUSINESS ADMINISTRATION

Edward Leroy Best
Harry Tate Bowers
Walter Roland Elmore
Jerry Stephen Honey
Edwin Scott Key
Ronald Wade Lamkin
William Edwin Phillips
Robert Buise Steen
Robert Joseph Thomas

LIBERAL ARTS

John Edward Abernathy
Thomas Francis Baucom
Richard Daniel Buckey
Thomas Guy Eason
Archie Harold Edwards
Evelyn Faires
Howard Lee Hailey
Onita Lee Long
Martha Louise Moore
Frank Blair Turner

EDUCATION

Lorna Jean Byers
Betty Jane Johnson
Joyce Ann Lawing
Gail Deanna Merrell

ENGINEERING

William Joel Alexander
Bruce Arnold Andersen
John Samuel Bell
Charles Robert Benson
William Ray Carriker
Earl Reid Crocker, Jr.
Sabir Hasan Mubarak Dahir
Charles Maxwell Deadmon
Richard Maurice Earnhardt
Olin Sylvester Giles, Jr.
James Monroe Gully
Clinton Wilson Hoover
Fred Arnold Jenkins
Howard Nelson Keller
David Nixon Little
Fulton Lee Lynch, Jr.
Lawrence Julius McCall
Maurice Daniel McIntosh
Billy Glenn McWhorter
Charles Anthony Marwitz
Shaw Exum Pender, Jr.
Raymond Woodrow Phillips, Jr.
Bobby Ed Reynolds
William Louis Riley
David Edward Russell
John Avery Sharpe
Charles Douglas Simpson
Frank Weller Cassard Timson, Jr.
Robert Chester Tourtellot
Amzie Reid Wentz
Edward Lafayette Woods
John Morrison Yandle
John Franklin Youngblood, III

SCIENCE

Ransom Cloud Fox, Jr.
Edward Joseph Silber
Robert Hathaway Smith

BUSINESS ADMINISTRATION AND ACCOUNTING (Terminal)

James Russell LaRoach
Bruce Love Nussman
Samuel Hugo Smith, Jr.

DISTRIBUTION (Terminal)

Larry Grier Abernathy
Donald Thomas Harris
William David McKee
Desmond Francis Marsh

ELECTRICAL TECHNOLOGY (Terminal)

Jack Donald Helms
Clifford Brian Honess
Lyman Ray Reynolds

MECHANICAL TECHNOLOGY (Terminal)

Ben Wofford Smith

SOPHOMORES, 1959-1960

Abernathy, John Edward
Abernathy, Larry Grier
Abernethy, Robert Donald
Aguirre, Jesus Edward
Alexander, William Joel
Allen, Glenn Cornell
Allen, Julian Emmett
Andersen, Bruce Arnold
Bakis, Demetrios Angel
Balas, John Christopher
Barger, Gary Thomas
Barnes, Thomas Chaunce
Baucom, Keith Brooks
Baucom, Thomas Francis
Baxter, Donald Lee
Beamguard, Walter Larry
Beaty, Thomas Vernon
Bell, John Samuel, Jr.
Benson, Charles Robert
Best, Edward Leroy
Bishop, Effie Pool
Bivens, Douglas Donald, Jr.
Bivens, Roy Emmette
Bohannon, David Louis, Jr.
Bolick, Albert Medlin
Booth, Trula Sutton
Bowers, Harry Tate
Bowles, Lawrence Leonard
Brown, Gerald Lee
Brown, Harold Ervin
Brown, James Edward
Buckey, Richard Daniel
Buff, Donald Ray
Bullard, Alfred Hugh
Bush, Danny Elward
Cadieu, Eugene Myers
Carlton, Gary Eldon
Carrier, Albert Heath III
Carriker, William Ray
Cathey, Dennis Edward
Chappell, Russell Ernest
Chastain, Joel Ernest
Cherry, Albert Franklin, Jr.
Chesser, Dean Franklin
Clary, Jullie Marelene
Collins, Francis Wiley
Conner, William Franklin
Cornelius, Tommy Barnes
Craver, James Henry
Crenshaw, James Lewis
Crocker, Earl Reid, Jr.
Crout, Thomas Stanley
Crowell, William Spencer
Curlee, Bruce Alfred
Daggett, Charlotte Irene
Dahir, Sabir Hasan Mubarak
Davis, Benjamin Franklin
Davis, Gene Everette
Deadmon, Charles Maxwell
Deal, Charles Steve
Denton, Bruce Crawford
Drum, Dewey Lee
Earnhardt, Richard Maurice
Eason, Thomas Guy, Jr.
Edwards, Archie Harold
Elias, Henry Frederick
Elmore, Walter Roland
Erwin, Esther Rose
Faires, Evelyn
Ferguson, Lenard Neal
Fitzgerald, Bernice Hubert, Jr.
Flowers, Ernest Edward
Fox, Ransom Cloud, Jr.
Friedman, Kenneth Lee
Frink, William Bunn, Jr.
Garmon, David Edward
Garris, Bruce Delmer
Gilbert, Russell Clifford
Gilbert, Violet Madlyn
Giles, Noah Yates, Jr.
Giles, Olin Sylvester, Jr.
Gilland, Richard Rozzelle
Graham, Charles William
Graham, John Dermont
Grass, M. W., Jr.
Griehsbach, David Rudolph Herman
Guest, Wade Dewey, Jr.
Guin, Jasper Linwood, Jr.
Gulley, James Monroe
Gulley, Suzanne Hargett
Hailey, Howard Lee
Hammons, Charles William
Hargett, Wyatt Price, Jr.
Harrill, Larry Bell
Harris, Donald Thomas
Hartis, Robert Lane
Harvey, Reggie Clinton
Helms, Conrad Claude, Jr.
Helms, Jack Donald
Helms, John Franklin
Helms, Lucille Wilson
Helms, Thomas Floyd, Jr.
Herrera, Mary Armstrong
Hice, Clyde Davis
Hilton, Mary Angeline
Hinkel, Emory Ellsworth, Jr.
Holder, Rufus Ernest, Jr.
Honess, Clifford Brian
Honey, Jerry Stephen
Hoover, Clinton Wilson
Hoover, Larry Allan
Hosse, Jimmy Bonner
Hough, Alfred Leroy
Hoyle, Walter Edward
Huffman, James Arnold
Hunter, Caryl Blanche
Ingold, Sara Dry
Jackson, Donald Bryant
James, Esca Alton
Jenkins, Fred Arnold

SOPHOMORES, 1959-1960

Johnson, Betty Jane
Johnson, Dewey Lester
Jordan, Roderick Crouse
Katsaris, Mary George
Kellams, Harold Donald
Keller, Howard Nelson
Key, Edwin Scott
Kiker, Joe McCollum
King, Joseph Eugene
Kirby, Dicky Harold
Lamkin, Ronald Wade
LaRoach, James Russell
Lawing, Joyce Ann
Laye, Don Franklin
Lever, Thomas Horace III
Leza-Astorga, Nora
Linker, Walter Stephen
Little, David Nixon
Little, William Harold, Jr.
Long, Onita Lee
Lord, Charles David
Lowman, Frank Earl
Lynch, Fulton Lee
McCall, Lawrence Julius
McClung, Mary Lee
McIntosh, Maurice Daniel
McKee, William David
McLean, Lathan Gilmer
McManus, John Calvin
McMillan, Donald Francis
McNeely, Thomas Avery
McRorie, Peggy Carriker
McWhorter, Billy Glenn
Marsh, Desmond Francis
Marwitz, Charles Anthony
Melton, Thomas Morrison
Merrell, Gail Deanna
Merritt, Jerry Baxter
Messina, Jack Peter
Miller, Rex Franklin, Jr.
Mills, Bobby Gene
Millsaps, Harold Gilbert
Mims, Herman Dewitt
Moore, Martha Louise
Moore, Sarah Elizabeth
Morris, William Rufus
Mullen, Jerry Ray
Nivens, John Jackson
Nussman, Bruce Love
Ogden, Charles Howard
Owens, Napoleon Jerome, Jr.
Palmer, Aubrey Lomax, Jr.
Parker, Darryl Newton
Parker, Dolores Ann
Parlier, Nancy Carter
Peeler, Donald Ray
Pender, Shaw Exum
Petty, Maxwell Eugene
Phillips, Raymond Woodrow
Phillips, William Edwin
Poole, William Davis
Query, William Kress
Quillen, Laurin Elbert
Raynes, Joseph Marion
Reynolds, Bobby Ed
Reynolds, Lyman Ray
Riley, William Louis
Rivers, Georgia Mae
Robeson, Howard William
Roe, Walter Lee, Jr.
Royce, Judy Joan
Russell, David Edward
Schermer, Floyd Carl
Scott, Edwin Robinson, Jr.
Scroggs, John Tatum
Secrest, Claude Davis
Settlemyre, James Joseph
Sharpe, John Avery
Shore, Gerald Lee
Shorter, Shelton Legrand
Silber, Edward Joseph
Simon, John Flynn
Simpson, Charles Douglas
Sims, David King
Sinclair, Marcus Byron, Jr.
Sledge, William Collier
Smith, Ben Wofford
Smith, Robert Hathaway
Smith, Rosemary
Smith, Samuel Hugo, Jr.
Steen, Robert Buise
Stiles, Richard Mack
Suggs, Thomas Milton
Summey, John Orville, Jr.
Talley, Donald Flynn
Teffeteller, Larry Benford
Thomas, Robert Joseph
Timson, Frank W. C., Jr.
Tourtellot, Robert Chester
Truax, David Muir
Trull, David Cyrus
Turner, Frank Blair
Turner, James Everett
Vanderburg, Archie Clayton
Wallace, John Wilse
Wellmon, Wayne Kenneth
Wentz, Amzie Reid
West, Tommy Bradford
White, Robert Andrew
Wilkinson, Mary Emily
Williams, Gerald Allen
Williams, Lawrence Reed
Wilson, Jerry Charles
Wilson, Joseph Fred
Winchester, Albert Douglas
Woods, Edward Lafayette
Wyatt, Charles Bogard
Yandle, John Morrison
Young, Edwin Thomas
Youngblood, John Franklin, III

FRESHMEN, 1959-1960

Acra, Edgar Najib
Adams, John Thomas
Adams, Thomas Franklin
Aldridge, Thomas Howard
Alexander, Teddy Frank
Allen, Larry Donald
Allen, Wayne Harold
Anderson, Joseph Leon, Jr.
Arrowood, John William
Arrowood, Keith Morgan
Arthur, Ronald Louis
Asbill, Charles Andrew
Ashworth, Elvera Jane
Austin, Ernest Hampton, Jr.
Austin, William Gerald
Bailey, David Henry
Baker, James Farris
Barbee, Robert Boyd
Barber, Joseph Daniel, Jr.
Barley, Willis Bryant, Jr.
Barr, Robert Francis
Batrouni, Mona Michel
Baucom, James Olen
Beachley, Robert Walter, Jr.
Beagle, Robert Frederick
Beard, James Herman
Beheler, Mickey Allen
Bell, Gary Lynn
Bell, John Henry, Jr.
Bennett, James Franklin
Benson, Robert Odell
Benton, Larry Wayne
Biggers, Rebecca Brown
Biles, Patricia Wellmon
Black, Ralph Clark
Black, Thomas Baxter, Jr.
Blackwelder, Robert Lee
Blanton, Edward Darvin, Jr.
Blythe, Esther Lovelace
Boone, Marvin Aaron
Booth, John Charles
Bostic, Jimmie Drew
Bradburn, Robert Thomas
Bradshaw, Jackie Roland
Brafford, Gwenette Gail
Bridges, Robert Louis
Bright, Benjamin Loman
Brock, Robert Grant
Brooks, Thornton Naylor
Brown, Donald Ray
Brown, Franklin Roosevelt
Brown, James Marvin
Brown, Marvin Miller
Brown, Robert Charles
Burns, Henry Owens
Burns, Ruby Hildreth
Burrus, Carl Plott
Burwell, Robert Carter
Byrum, Thomas Joe, Jr.
Caldwell, Milford Douglas
Caldwell, William Marcellus
Callicutt, Charles Dudley
Campbell, Hugh Roderick
Cann, William Everett
Carden, Billy Charles
Carlson, Nobel Dean
Carmack, Kenneth Lemar
Carpenter, George Falls, Jr.
Carras, George
Carriker, John Henry
Carriker, Richard Wilson
Carson, Melvin Douglas
Carter, Donald Lee
Carter, Jack Edward
Cashion, Robert Edward
Cauble, Larry Alexander
Caudle, Carris Manley, Jr.
Caudle, Charles Frederick
Choate, John Banks
Choate, John Leslie
Christenbury, Dwight Olin, Jr.
Clark, Robert Theron
Clark, Rosalind Marguerita
Cloud, Curtis Lowe, Jr.
Cobb, Edwin Hastings
Cobb, John Edward
Cochran, John Thomas
Coffey, Mitchel Trantus
Collins, Daniel Curtis
Collins, Donald Lynn
Colvard, Eulas Gary
Combs, Helen Kay
Connell, Michael Davis
Conner, Charles Wayne
Connolly, Albert Raymond
Connor, Lee David
Cook, Edward Tollett
Cooper, William Heywood
Corbett, Kenneth Franklin
Cornell, James Fraser, Jr.
Cox, James Donald
Crabtree, Emily Marie
Cranshaw, Marvin Stevenson
Crawford, James Thomas, Jr.
Creech, Billy Price
Crisp, John Dorsey, Jr.
Crout, Joan Poole
Crowley, William Smith
Crump, Hugh Gordon
Currie, Catherine McArthur
Daniel, Patricia Ann
Darden, Franklin Miles, Jr.
Davis, James Robert
Davis, Larry Jerome
Davis, Robert Burwell
Davis, Wayne Nelson
Davis, William Clement, Jr.
Davis, William Javan
Davis, William Pike
Dawkins, William Ellis

FRESHMEN, 1959-1960

Dellinger, Joe Billy
Dellinger, Theodore Ceph
Denton, Lewis Ray
Derrick, David Walter
DeVine, Frank James
Dixon, Melvin Boyd
Doan, Robert Lee
Doster, Thomas Roland
Drossin, Paul Robert
DuBose, John Henry
Duckworth, Sameul John
Dula, Paul Jones
Dunlap, Samuel Henry, III
Dunn, Bobby Edward
Earnhardt, Lloyd Douglas
Earnhardt, Samuel James
Eason, William Croker
Edwards, Bruce A.
Edwards, Edward Luther
Elliott, Haley Allan
Ellis, John Martin
Emerson, George Washington, Jr.
Fairchild, Marilynn Sue
Fairchild, Richard Perry
Farr, Jack Davis, Jr.
Faulkenberry, Johnny Albert
Ferguson, Robert Frederick
Fish, Otho Alden, Jr.
Fisher, Jack Marshall, Jr.
Forbis, William Wayne
Forrest, Alfred Claude
Fort, John Leake, Jr.
Fowler, Robert Hudson
Foxx, Jimmie Rex
Francis, John Boger
Franklin, Tom Skinner
Frazier, Francis Sparks
Freeman, Sarah Elizabeth
Funderburk, Edward Ashley
Funderburk, James Franklin
Funderburk, Robert James
Funderburke, Ronald Eugene
Funk, Charles Silas
Galvin, Douglas Gordon
Garibaldi, Linn Dunklin, Jr.
Gillespie, Harold Cleveland
Gilliland, Nancy
Gilmer, James Thomas
Glenn, Walter Whitworth, Jr.
Godfrey, James Wayne
Graham, George Washington, Jr.
Graham, James Richardson
Grant, James William
Greer, Robert Wayne
Gribble, Thomas Jackson
Grier, Preston Douglas, Jr.
Griffin, Charles Donald
Griffin, William Homer, Jr.
Grimstead, William Thaddeus
Gunter, Jerry Clyde
Gupton, James Albert III
Guthrie, Barry Britton
Haas, Earl Wayne
Haas, Steve Wiley
Hager, William Edward
Hall, James Roger
Hamilton, James Gordon
Hamilton, Patricia Anne
Hancock, Barrie Carleton
Harkey, Frank Ervin, Jr.
Harmer, Michael Hosea
Harris, Laura Eugenia
Harris, Linda Leete
Harrison, Ronald Benjamin
Hartis, Jerry Edmond
Hartis, Roy Lee, Jr.
Harward, Tyrone Hutchins
Harwell, Willie Victor, Jr.
Hawkins, Harry McAden
Heinbaugh, Kenneth Houck
Helms, Eric Timothy
Helms, Lloyd Warner
Helms, William Phil
Herring, Leonard Elbridge, Jr.
Hewell, Timoth Patrick
Hicks, Lynda Hilton
Hicks, Noah Max
Hicks, William Wanley, Jr.
Hill, Lucy Virginia
Hinson, Barry Franklin
Hoffecker, Charles Harrison
Hoffman, Robert Eugene
Holland, Robert Edward
Hollingsworth, Katy Connor
Holt, Don Harlan
Holtzclaw, William Merle
Horton, Fay Melvin
Howell, Larry Glenn
Howie, Max Montgomery
Huckabee, James William
Hughes, Wallace Gene
Humbert, Charles Edward, Jr.
Hunter, Mildred Ann
Huss, Malinda Ellen
Hutson, Daniel Heywood
Idol, Gary Eugene
Irvin, Larry Eugene, Sr.
Jackson, James Patrick
James, Earl Terry
Jamison, Kenneth Hardis
Janes, William Wendell
Johnson, John Curtis
Johnston, James Guy, Jr.
Johnston, Reid Selby
Jones, Franklin Alexander, Jr.
Jones, Hayden Hodges
Jordan, Fred Howard
Josephs, James William
Kaperonis, Theodore Paul
Kaplon, Shelton
Karlson, Robert Allen

FRESHMEN, 1959-1960

Keith, Doris Jeannette
Kendall, Rell Brown
Kenley, James Ronald
Killian, Fred Goodson
Kinzie, Norman Thomas
Kiser, John Michael
Knight, Swindell Roy, Jr.
Kraus, Theodore Wayne
Kretschmer, Frank August
Lake, Phillip Sidney
Lambert, Bobby Eugene
Lane, Robert Charles
Latane, James Wellington, III
Latty, Richard Allen
Lawing, Clarence Gustavius, Jr.
Ledford, Carolyn Sue
Ledford, William Roosevelt
Little, Robert Eugene
Little, Wayne Arthur
Livingston, Don Wilson
Lohr, Philip Marcus
Long, John Morgan
Long, Ralph Dennis
Long, Sherman Amos
Lord, Hoyal Dudley
Lowder, Gary Everett
Lowe, Billy Lee
Lowery, Charles Kenneth
Lunsford, Dedrick
Lynch, Hugh Patrick
McAleer, James Charles
McAllister, Diane Lyles
McAllister, Jack Alexander
McArn, Charles Richard, II
McCain, Gary Clifton
McCall, Rees Dwelle
McIntosh, Robert Henry
McCord, Melvin Maurice, Jr.
McCurdy, Ronald Eugene
McLean, Allan Richard
McLeod, Eunice
McManus, Gerald Samuel
McManus, John Paul
McNair, John David
Marcotte, Charles Edwin
Marshall, Henry Barnes
Massey, Raymond
Matheson, Charles Leonard
Mauney, Samuel John
Maurice, Jane Delores
Maurice, Martha Carole
Medlin, Fred Ernest
Melton, Charles David
Melton, George Richard
Miller, Alfred Gilbert
Miller, Kenneth Rhudar
Miller, Nancy Carolyn
Miller, Richard Maurice
Mingus, Roger Wayne
Mitchell, Edward Lee, Jr.
Mixon, Rudolph Benjamin, Jr.
Moeller, William Paul
Montague, David Owen
Moore, Carl Calvin, Jr.
Moore, Jimmy Franklin
Moore, John Vernon
Moore, Larry Thomas
Moore, Robert Lee
Moretz, Audna Austin
Morgan, Boyd Hoyle
Morgan, Jerry Alfred
Morris, Charles Alexander
Morris, John Philmore
Morris, Rebecca Adaline
Morris, Robert Lee
Morris, Warren Howard
Moser, Luther David
Moss, Robert Everett
Moye, Jesse Rountree III
Mullis, Donnie Clifton
Mullis, Kenneth Wayne
Mullis, Richard Lane
Murdoch, Francis Johnstone
Murray, Patricia Ann
Nesbit, William Lafayette
Nesbitt, Jacqueline
Newell, John William
Newton, Walter Leon
Nichols, Earl Bruce
Norman, Patricia Ann
Osborne, Susan Rone
Paige, Bobbie Ray
Pappamihiel, Dorothy
Pappamihiel, Steve Constantine
Parnell, James Lee
Patterson, Joel Hampton, Jr.
Payne, Carlous Ray
Payne, Dorce Howard, Jr.
Payseur, Sandra Kay
Pender, John William
Pendleton, Thomas Edward
Penegar, Norman Oscar
Perrell, Lacy Clifton
Perry, Preston May, Jr.
Pettus, Jerrold Hugh
Pettus, Robert Eugene
Pharr, William Hunter
Phillips, Larry Crawford
Pierce, John Blaine
Pierce, Myraden
Pleasants, William Joseph
Plyler, Walter Gaines
Poovey, George Williams
Poplin, Jerry Melvin
Potter, Barbara Harmon
Potter, James Thomson, Jr.
Potter, Ronald Lyle
Povey, William Dickson
Povirk, John Louis
Pressley, Shirlee Donald

FRESHMEN, 1959-1960

Pritchard, Thomas Alexander
Puckett, Henry Cravin
Purser, Michael Gene
Purser, Neubert
Ramsey, Wade Irvin, Jr.
Rawlins, James Reginald
Reed, Hubert Vance
Rhodes, Clifton Baxton
Rich, Jerry Clarence
Richardson, Carl Smith
Rick, Charles Edward
Riley, David Livingstone
Riley, James Robert
Rion, Edward Whaley
Ritchie, Barron Lloyd, Jr.
Ritter, Larry Randolph
Roseman, Billy Forney
Ross, Ruth Lang
Routh, Andrew William
Rowell, Edwin Belk
Rozzelle, James Edward
Rushing, Gene Conway
Russell, Garlin James
Rutledge, Thomas Wilson
Sadler, Robert Parks
Schmucker, James Michael
Scribner, Ernest James
Scribner, Linda Lou
Scruggs, Elford Keith
Seaman, Lillian Pearl
Seawell, Charles Coy
Sebek, Robert Mickael
Seeger, Daniel Trammel
Settlemyre, Elizabeth Ann
Sexton, James Harvey
Shalabi, Rasmi Shaban
Shepherd, Larry William
Sherrill, Rosemary Newton
Shinn, Paul Alexander
Shivar, Douglas LeGrand
Shrum, Ray Bennie
Shuman, Jerry Dean
Sigmon, William Ira
Simmons, Willard Eugene
Simpson, George Orville
Simpson, John Moody
Simpson, Mott Edmond
Simpson, Wallace Worsham
Singleton, Hugh Edward
Skaff, Frederick, Jr .
Skinner, Richard Thomas, Jr.
Sloope, Walter Alston
Smith, Adron Taylor, Jr.
Smith, Gary Richard
Smith, Harriet Elaine
Smith, James Warren
Smith, Kenneth Carson
Smith, Larry Douglas
Smith, Larry Wadsworth
Smith, Sidney Theodore
Snyder, Sandra Elizabeth
Soiset, William Austin
Spencer, Jerry Helton
Stafford, Donald Earl
Stafford, Gerald Marion
Stafford, John Franklin, Jr.
Stallings, Jack Bernard, Jr.
Stanton, Leroy Efird
Starnes, Joe Lee
Starnes, Oren Brown
Staton, Herman Burnell, Jr.
Stegall, Eddie Owen
Steinek, Hubert Max, Jr.
Stevens, Shelton Benjamin, Jr.
Stevens, Jimmie Ray
Strathdee, Jean Grier
Strawn, Donald Richard
Stringer, Claude Lisbon, Jr.
Stroupe, William Harold
Sutton, Johnny Samuel
Swaringen, Philip Rae
Swart, George Jacob
Szilagyi, Gabor Joseph
Taylor, Richard Lee
Therrell, Howard Wayne
Thomas, Jere Manly, Jr.
Thomasson, Phillip Martin
Thompson, Emmett Nelson
Thompson, Joseph Evans, Jr.
Thompson, Robert LeGrande
Tiller, Roy Wilton
Torbet, Jane Ellen
Torrence, Lloyd Clifford
Tucker, James Thomas, Jr.
Tucker, Robert Reynolds
Tyler, Jerry Paul
Vandiver, James Enoch, Jr.
Virnelson, Robert Kay
Watkins, Donna Ga-Von
Wayne, Cliff Dunbar
Wegner, Donald Edward
Wellman, James David
West, William Hugo
Whitaker, Dennis Gerard
White, Murray Wilson, Jr.
White, Vivian Nadine
Whitley, William, Jr.
Wilson, James Howard
Wilson, Robert Edwin, Jr.
Wilson, Russell Gray
Wingate, James Allen
Winslow, Kent Gilbert
Winslow, Urbian Curtis
Withers, Mickey Joel
Withers, Wayne O'Neal
Withrow, Robert Hugh
Wofford, Lucian Pomeroy, Jr.
Wolfe, William Earle
Wyatt, Johnny Leon
Yandle, James Dale
Young, Ray Everett
Zoutewelle, Leo Johannes

UNCLASSIFIED COLLEGE GRADE

Alexander, Lawrence Eric
Barnhardt, Caleb Harley, Jr.
Barrett, Bobby Ray
Bickett, Edgar Porter
Bridgeman, Luther Pierce
Brookins, Warren John
Bullock, William Robert, Jr.
Campbell, Jimmy Ray
Capstick, Donald Charles
Connell, Oscar Watson, Jr.
Crowell, Thomas Edward
Davis, Elmer Robert
Dellinger, Myra Melinda
Eastridge, Annie Gwendolen
Edge, Samuel Bourne
Fish, Joseph Raymond, Jr.
Fitzjohn, Judith Marcia
Forlidas, Nick John
Frantz, Edward Paul
Gray, Robert Fredrick, Jr.
Hall, Jimmy Carpenter
Hill, Lyle Eugene, Jr.
Hill, Margaret Patricia
Holder, Harry Lane
Hopper, Clyde Edward
Howell, Leonard Maxwell
Huntley, Rex Reynolds
Jack, Bernard Roy
Kennard, Samuel Jefferson, III
Lawson, David Ligon
Leaman, William Benton, Jr.
Leonard, George Peter
Linn, Robert Arlen
Lippard, Vance Boyd, Jr.
Litaker, Van Eugene
Lutz, James Boyte
McEntire, Albert Osborn
McKechnie, Robert Matthew
Markey, John Cornelius
Maydanis, Kanela Andrew
Misenheimer, Clinton Brown
Morrow, John Deal
Mullinax, David Eddy
Murphy, Charles Linder
O'Donnell, Colvin Hunter
Panelli-Bigay, Yves
Price, Martha Elizabeth
Robinson, Lewis Earle, Jr.
Sims, Edwin Lee
Smith, Stuart Harrington
Summerville, William Kelly
Thompson, Ray Lee
Warner, Sidney Brian
Williams, Boykin Frederic
Wilson, Terry Scott

SUMMARY OF STUDENT ENROLLMENT FOR 1959-1960

Sophomores		240
Freshmen		483
Unclassified College Grade		55
Auditors		40
Summer Session		335
Adult Education		122
Adult Reading Improvement	25	
Management Problems in the Operation of a Business	45	
Review Class for North Carolina Engineering Registration Examination	52	
	122	
Total Enrollment		1275

CHARLOTTE COLLEGE HONORS AND AWARDS

May 18, 1960

Altrusa Award, Pilot, and Quota	James Fraser Cornell, Jr. Laura Eugenia Harris Elizabeth Ann Settlemyre
Alumni Scholarship	Howard Wayne Therrell
American Business Women's Association	Helen Louise Rea
Bonnie E. Cone Award	Robert Boyd Barbee
Charlotte Association of Insurance Women's Award	Vivian White
Charlotte Chapter National Assoc. of Accountants	Joe Lee Starnes
Charlotte Panhellenic Congress Award	Helen Kay Combs
Chemistry Achievement Award	Robert Frederick Ferguson
Physics Achievement Award	Clinton Wilson Hoover
Mathematics Achievement Award	James William Grant, Jr.
DAR Award	Frank Ervin Harkey, Jr.
WBT-WBTV-WBTW Scholarship	William E. Morrison
Ladies Auxiliary, Piedmont Chapter of Prof. Engr.	Harry Iverson Huber
L. G. Mumaw Scholarships	Charles Steven Deal Jerry Owens
Phi Theta Kappa Scholarship	Christian Curtis Collins
Optimist Club Scholarship	John Hunter McCoy
Professional Engineer's Scholarship	Robert Thomas Bradburn
Sigma Lambda Chi Scholarship	Fitzhugh Lee Austin, III

Thad L. Harrison Scholarship	Dorce Howard Payne
The Winningham Scholarship	Lillian Seaman
Commencement Marshals	
Chief Marshals	Robert Boyd Barbee Linda Leete Harris
Other Marshals	James Fraser Cornell, Jr. Robert Wayne Therrell Robert Frederick Ferguson James Wilson Grant, Jr. Elizabeth Ann Settlemyre
Bill Mitchell Awards	Gail Deanna Merrell James Russell LaRoach
Morehead Scholarship	Edward Joseph Silber

THE NORTH CAROLINA STATE COLLEGE PROGRAM

Two years ago, the School of Engineering of North Carolina State College established a Charlotte Department, using the facilities of Charlotte College. This program is a reality because of the excellent cooperative relationship existing between the two colleges.

The main purpose of the North Carolina State program is to offer Junior, Senior, and Graduate-Level Engineering courses that can advance the student toward a degree. Courses carry exactly the same credit as those offered at Raleigh. All courses are offered in the evening on a semester basis.

Most of the courses offered are common to several Engineering Curriculums, including Mechanical, Electrical, and Civil. Seventy-five students were enrolled in six courses in the fall semester, 1959.

Instructors, mostly drawn from the large number of engineers employed in local industry, include:

J. O. Brady	Duke Power Co.
R. D. Cohn	B. O. Vannort
R. N. Hooker	Douglas Aircraft
L. W. Long	Duke Power Co.
D. W. Meyers	Celanese
J. M. Molloy	Celanese
J. M. Potts	Douglas Aircraft
W. P. Taylor	Chas. T. Main, Inc.

Herbert A. Lynch is head of the Charlotte Department and maintains an office at Charlotte College.

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The Catalog of

CHARLOTTE COLLEGE

1961 1962

1949

A Two-Year Junior College
Accredited by:

The Southern Association of
Colleges and Secondary Schools

Member of:

Southern Association of
Junior Colleges
American Association of
Junior Colleges

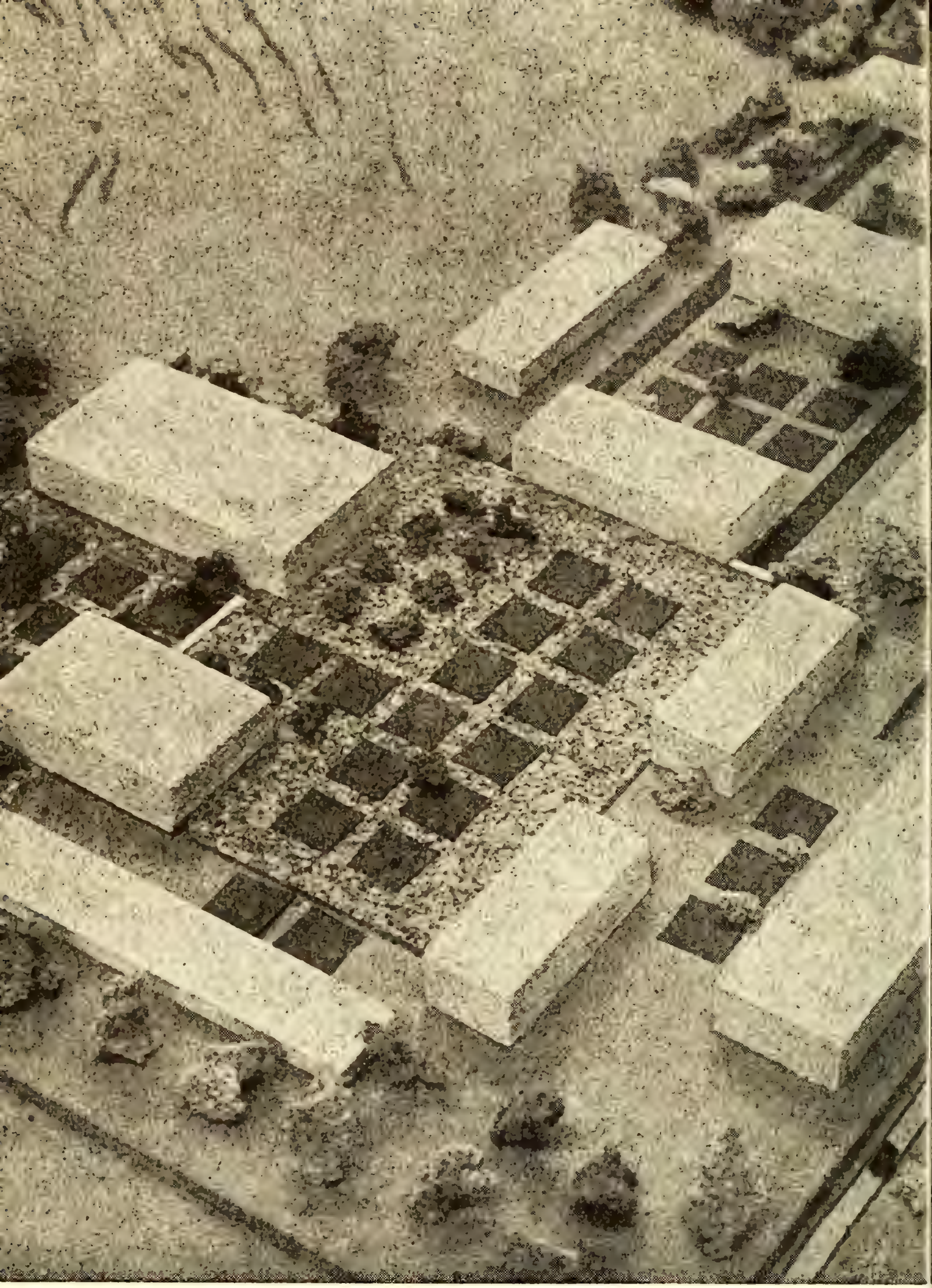
Mailing Address:

Charlotte College
P. O. Box 20428
Charlotte, North Carolina

CHARLOTTE COLLEGE

CHARLOTTE
NORTH CAROLINA

1961-1962



architect's vision of
the shape of the charlotte
college of the future

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1961

SEPTEMBER

S	M	T	W	T	F	S
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1962

JANUARY

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JULY

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CALENDAR OF EVENTS

FALL

September 5-8	Advance Registration of Old Students
September 13-15	Orientation of New Students
September 18	Registration of New Students
September 19	Registration of Other Students
September 20	First Day of Classes
September 27	Last Day to Add Courses for Credit
October 11	Last Day to Drop Courses
November 21	Last Day of Classes before Thanksgiving Holidays
November 27	Classes Resume
December 20	Last Day of Classes before Christmas Holidays
January 2, 1962	Classes Resume
January 22-26	Advance Registration for Spring Semester
January 23	Last Day of Classes
January 25-31	Final Examinations

SPRING

February 1	Orientation of New Students
February 2	Registration of New Students
February 5	Registration of Other Students
February 6	First Day of Classes
February 12	Last Day to Add Courses for Credit
February 26	Last Day to Drop Courses
April 20	Last Day of Classes before Spring Holidays
April 30	Classes Resume
May 21-25	Advance Registration for Summer Session
May 25	Last Day of Classes
May 28-June 1	Final Examinations
June 3	Graduation Exercises

SUMMER, 1962

FIRST TERM

June 7	Registration
June 8	First Day of Classes
July 4	Holiday
July 13	Last Day of Classes
July 16-17	Final Examinations

SECOND TERM

July 18	Registration
July 19	First Day of Classes
August 22	Last Day of Classes
August 23-24	Final Examinations

ADMINISTRATION AND FACULTY

BOARD of TRUSTEES of CHARLOTTE COMMUNITY COLLEGE SYSTEM

J. Murrey Atkins	*Chairman*
Dr. E. H. Garinger	*Secretary*
Dr. Bonnie E. Cone	*Treasurer*

	term expires
Thomas M. Belk	1962
C. A. McKnight	1962
Sheldon P. Smith	1962
Dr. Thomas Watkins, Sr.	1962
J. Murrey Atkins	1962
John A. McRae	1962
Dr. E. A. Beaty	1962
R. L. Taylor	1962
John Paul Lucas	1964
Addison H. Reese	1964
Linn D. Garibaldi	1964
Oliver R. Rowe	1964

OFFICERS OF ADMINISTRATION

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W. L. Yarbrough	*Business Manager*
Harper Higgins	*Registrar*
Mildred English	*Director of Student Personnel*
Mrs. Richard J. Sims	*Secretary*
Mrs. B. Frederick Buchan	*Secretary*
Mrs. Daniel W. Turner	*Secretary*

FACULTY, 1960-1961

Adams, John K.	Mechanical Technology *B.M.E., Armour Institute*
Baker, L. Evelyn	English *A.B., Winthrop College* *A.M., Duke University*
Ballance, Gilbert	Mechanical Technology *A.B., University of North Carolina* *M.Ed., University of North Carolina*
Barton, Easley B.	Electrical Engineering *B.E.E., Clemson College*
Bernstein, Percy L.	Mathematics *B.E., Tulane University* *M.A.T., Duke University*
Black, Cleta I.	English *B.S., Appalachian State Teachers College*
Bolick, John K.	Electrical Engineering *B.E.E., North Carolina State College*
Bolton, James L.	Physics *B.S., University of South Carolina*
Branshaw, Wayne L.	Mechanical Technology *B.S., Stout State Teachers College*
Carson, Benjamin	English *B.A., Catawba College*
Cheek, William Edward	Chemistry *B.S., Appalachian State Teachers College* *M.A., Appalachian State Teachers College*
Church, Wayne C.	Mathematics *B.S., Appalachian State Teachers College* *M.A., Appalachian State Teachers College* *D.Ed., Indiana University*

CORKEY, W.B.H.	PHILOSOPHY, PSYCHOLOGY, AND RELIGION	*B.A., Queen's University, Belfast, Ireland*
DARHOLT, JEROME O.	MECHANICAL ENGINEERING MECHANICAL TECHNOLOGY	*B.M.E., North Carolina State College*
DENNY, MARY R.	ENGLISH	*A.B., Salem College* *A.M., Duke University*
DULA, LANDEN M.	ENGINEERING MECHANICS	*B.S., Purdue University*
DWYER, DORIS L.	SHORTHAND	*B.S.S.A., The Woman's College of the University of North Carolina*
FORE, MARY S.	ENGLISH	*A.B., Winthrop College* *A.M., Columbia University*
FUNDERBURKE, WILLIAM H.	CIVIL TECHNOLOGY	*B.C.E., North Carolina State College*
GOODRUM, CLOYD S., JR.	MATHEMATICS	*B.Ae.E., Rensselaer Polytechnic Institute* *A.M., University of North Carolina*
GREEN, PHILIP J.	HISTORY	*A.B., University of Alabama* *M.A., University of Alabama* *Ph.D., University of Chicago*
GYLES, RONALD C.	ELECTRICAL TECHNOLOGY	*B.E.E., B.S., North Carolina State College* *M.E., North Carolina State College*
HAMRICK, MARY V.	TYPING	*B.S., The Woman's College of the University of North Carolina*

Harrison, Jane E.	Accounting *A.B., Randolph-Macon College* *M.B.A., Indiana University*
Hechenbleikner, Herbert	Botany, Geography, Geology and Zoology *A.B., University of North Carolina* *A.M., Harvard University* *Ph.D., Harvard University*
Higgins, Harper T., Jr.	Accounting *B.S., Presbyterian College* *M.Ed., University of North Carolina*
Holden, Ruth L.	Co-ordinator, Management Problems *B.S., Ohio University* *M.L., University of Pittsburgh*
Hoyle, Frances B.	Spanish *A.B., The Woman's College of the University of North Carolina* *A.M., New York University*
Kirby, Dorothy A.	Botany and Zoology *A.B., Atlantic Christian College* *A.M., University of North Carolina*
Lafferty, Oma C.	History *B.A., Tulane University* *M.A., University of Chicago*
Lawrence, Martha E.	Mathematics *B.A., Winthrop College* *M.A., Duke University*
Lovell, James H.	English *B.A., Texas Christian University* *M.A., Texas Christian University*
Lucas, David	Civil Technology *B.S.C.E., Duke University*

MACY, PIERRE — FRENCH
A.B., University of Nancy
M.A., University of Dijon
Ph.D., University of Paris

MARKHAM, ELEANOR — MATHEMATICS
A.B., Duke University
A.M., Duke University

MARSHALL, JAMES R. — MATHEMATICS
B.S., Appalachian State Teachers College
M.Ed., University of North Carolina

MARSHBURN, LEROY D., JR. — INDUSTRIAL TECHNOLOGY
B.S., University of North Carolina

MULLIS, CAROL B. — ELECTRICAL ENGINEERING
B.E.E., North Carolina State College

NORMAN, JOHN H. — CHEMISTRY
A.B., Erskine College
M.A., University of North Carolina

PLOGER, VERNE R. — ECONOMICS AND HISTORY
B.G.E., University of Omaha
M.A., University of Omaha

PLYBON, LOUISE M. — LIBRARIAN
B.S., Appalachian State Teachers College
B.S.L.S., M.S.L.S., George Peabody College for Teachers

POTTER, RAMONA F. — ENGLISH
A.B., Ripon College

POTTS, JAMES M. — PHYSICS
A.A., Mars Hill College
B.S.M.E., M.S.M.E., North Carolina State College

RIGGSBEE, GAYLE H. — MECHANICAL TECHNOLOGY
A.S., Southern Technical Institute

ROSS, DOROTHY L. — SOCIOLOGY
A.B., University of Miami
M.A., University of Pennsylvania

Russell, Luther O., Jr. — Mechanical Engineering
B.S.M.E., Duke University

Scherger, Mozelle S. — Librarian
B.S., Appalachian State Teachers College
B.S.L.S., University of North Carolina

Schoolfield, Walter R. — Psychology
B.S., University of Tennessee
M.S., University of Tennessee

Scott, Dewitt — Journalism
A.B., University of Florida
M.S., Boston University

Shepherd, David L. — College Reading
B.S., State Teachers College, Towson, Maryland
M.A., Teachers College, Columbia University
Ed.D., Teachers College, Columbia University

Sigmon, Kermit N. — Mathematics
B.S., Appalachian State Teachers College
M.Ed., University of North Carolina

Skinner, Sarah E. — Shorthand
A.B., Meredith College
M.S., University of Tennessee

Smith, John F. — Mathematics
A.B., Furman University
M.A., Furman University

Swofford, Clyde — Mathematics
A.B., Wake Forest College

Tinkham, Mark F. — Physics
A.B., University of North Carolina
M.Ed., University of North Carolina

Todd, Eugene — Coach
B.S., Clemson College
M.Ed., University of North Carolina

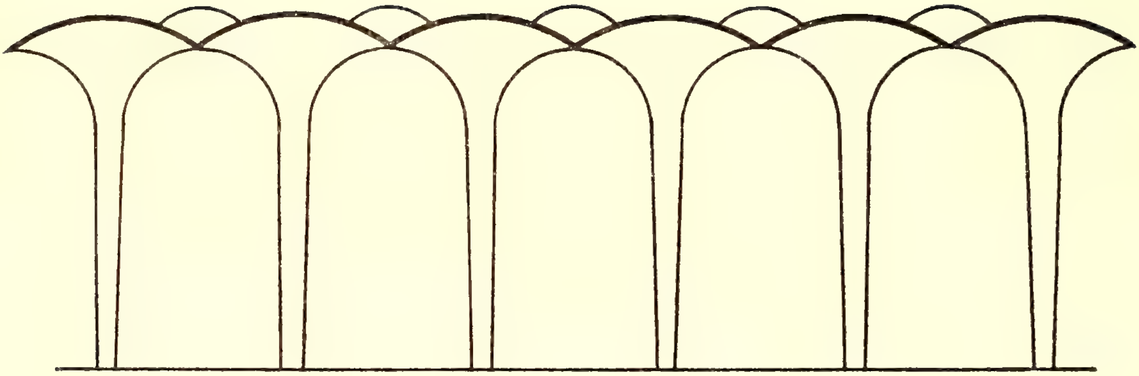
Wade, Jake — Business Law
B.S., Davidson College
L.L.B., University of North Carolina School of Law

Watson, Flora Mae — Mathematics
A.B., Winthrop College

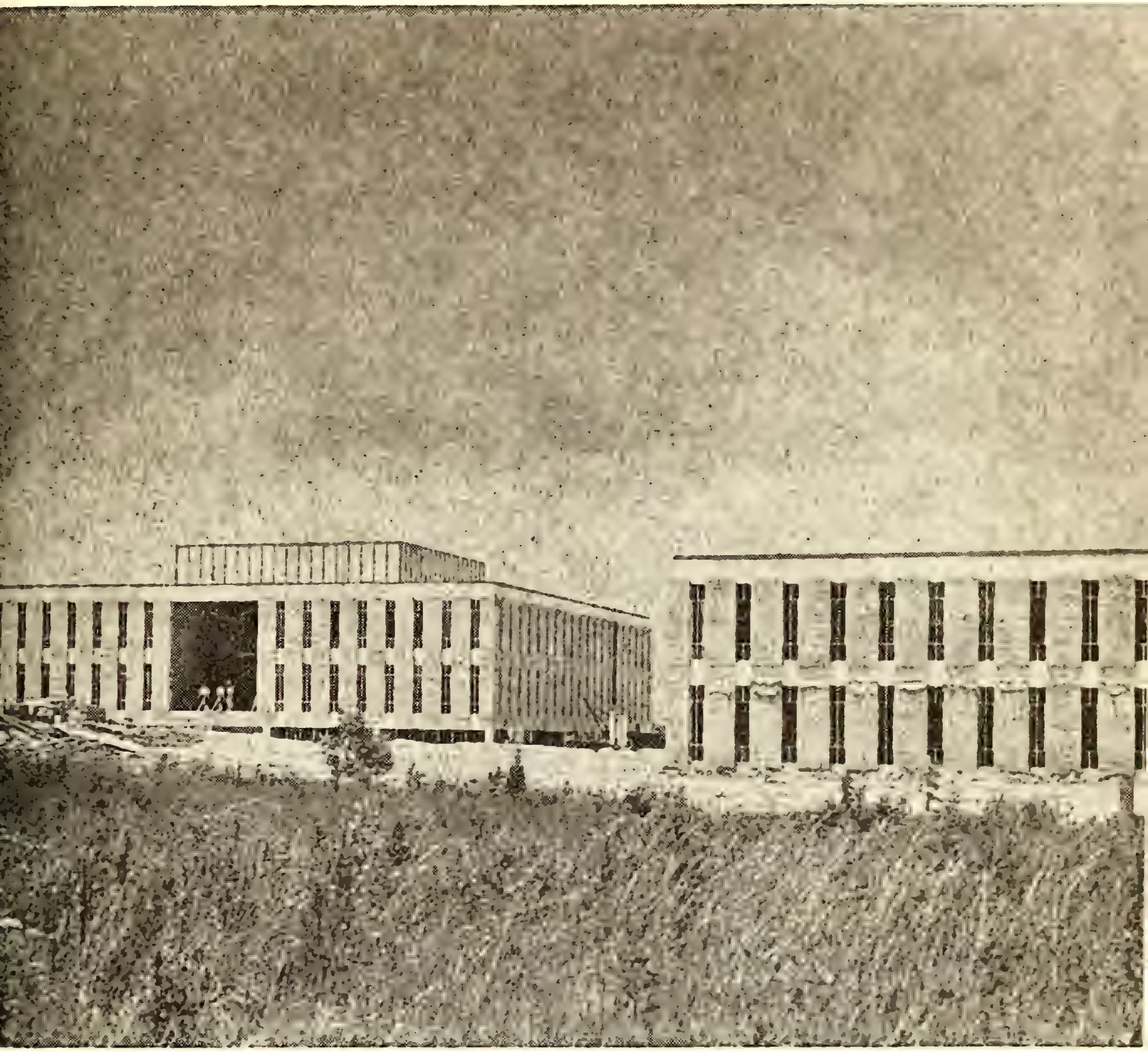
Whitener, Joseph B. — Chemistry and Physics
A.B., Trinity College (Duke University)
M.A., Trinity College (Duke University)

Winningham, Edyth F. — History and Political Science
A.B., University of North Dakota
A.M., University of North Carolina

Woodruff, Harvey L. — Choral Director
B.S., New York University
M.A., Teachers College, Columbia University



GENERAL INFORMATION



OBJECTIVES OF THE COLLEGE

Charlotte College recognizes its responsibility to the community and the individual citizens to provide educational opportunities to meet private and public needs. It feels that these needs include enriched personal living, cultural development, and responsible citizenship. The College holds that the preparation of young people to be competent in an occupation or to be capable of advancing in any senior college is a major part of this responsibility. Finally, it is one of its deepest convictions that a community college has a responsibility to the adults of that community to offer them opportunities for educational progress in areas of vocational, cultural, and general education.

Toward meeting these responsibilities, Charlotte College adopts these threefold objectives:

First, to prepare students for further academic or preprofessional study in a four-year college or university through two years of college work in most major fields.

Second, to prepare students for immediate employment through the two-year courses in business and technical education.

Third, to provide for employed adults opportunities for further education which will increase occupational competency and aid personal growth through organized study in vocational and general education.

MEMBERSHIP AND ACCREDITATION

Charlotte College is a member of the North Carolina College Conference, the Southern Association of Junior Colleges, and the American Association of Junior Colleges. It is accredited by the Southern Association of Colleges and Secondary Schools.

Credits earned at Charlotte College in curricula leading to degrees are transferable to senior colleges and universities.

LOCATION

Charlotte College is located on a 265-acre campus 8 miles from downtown Charlotte on Highway 49 northeast of Charlotte. With a population of 200,878, Charlotte, in Mecklenburg County, North Carolina, serves as the center of commerce, industry, and culture of an area of twenty-four counties.

In the fall of 1961 the College will move from the old Central High School buildings in the center of Charlotte to the new campus on Highway 49. Scheduled for completion by that time are the first two buildings, Science-Engineering and Liberal Arts, temporarily housing the library, bookstore and administrative offices. Plans for the Library and College Union Buildings are on the drawing boards and it is anticipated that these two buildings will be completed in the fall of 1962.

HISTORY

In the Summer of 1946 when North Carolina colleges anticipated an unprecedented increase in enrollment because of returning veterans, the North Carolina College Conference and the State Department of Public Instruction decided to sponsor college centers to provide for first-year college work in Charlotte and in eleven other communities in this state. From the first, the Charlotte College Center was the largest in the state. With the addition of second-year work in the fall of 1947, the enrollment of the Charlotte College Center reached 304, making it larger than all the other college centers combined.

In 1949, the North Carolina College Conference felt that the emergency in education was over and voted to discontinue its sponsorship of the college centers. However, the large enrollment at Charlotte College in 1948-1949 indicated to the Charlotte Board of School Commissioners the continued need for such an institution and prompted them to take measures to provide for a permanent college. At the request of the Charlotte Board of School Commissioners, a bill providing for the continuation of the Charlotte College Center as a permanent community college was passed by the 1949 session of the General Assembly. This bill authorized the Board of School Commissioners to administer the college as a part of the public school system and to finance the institution by charging the students tuition. At the outset any additional finances which were needed were to be provided from non-tax monies. In the event that these funds proved to be insufficient, the measure authorized a special election to provide a tax of not more than five cents on the $100. Since it had been apparent for some time that the available income was inadequate, a special tax election was held and approved by the electorate of the city of Charlotte on May 18, 1954. This approval provided a two cents tax on the $100 property valuation for the Charlotte Community College System of which Charlotte College is a part. In 1955, the General Assembly of North Carolina made the first appropriation for support of Charlotte College.

The two cents city levy voted in 1954 was eliminated on April 26, 1958, when citizens of Charlotte and Mecklenburg County voted a two cents tax on the $100 property valuation in Mecklenburg County for the support of the Charlotte Community College System. This officially brought the college under the North Carolina community college system, gave it its first Board of Trustees, and made it eligible for annual grants-in-aid from the State.

On November 4, 1958, a successful bond election in Mecklenburg County provided the necessary local funds which assured the college of the maximum State grant to enable it to acquire a site and initiate its building program. The 260-acre campus on highway 49, located about eight miles from the center of Charlotte, was purchased on February 4, 1959.

A state-wide bond election on October 27, 1959, provided for community colleges additional capital improvement funds available on a matching basis. Another Mecklenburg County bond election, November 8, 1960, assured the Charlotte Community College System of the necessary local matching funds to provide classroom, administrative and library facilities. In 1960 the Charlotte Community College Foundation was established to enrich and strengthen the community colleges through private sources which will supplement state and county appropriations and student fees.

In 1960-61 Charlotte College reached a total enrollment of 1359 individuals, including 1192 in regular college classes and 167 students in non-college credit courses. The College has a faculty of 62 full or part time instructors.

LIBRARY FACILITIES

The library is located on the main floor of the Science Building. An open shelf collection of 15,000 volumes and 200 periodicals with ample space for new books is provided. One out of every four students can be seated in the library.

In addition to the general circulating collection, reserve collections in each subject field especially selected and kept up to date supplement classroom instruction.

Conference rooms and typing rooms for student use are located in the library.

Students may use also the Charlotte Public Library, which consists of one main and nine city-county branches, and inter-library loan through which books for research are available from the University of North Carolina Library Interlibrary Center.

COUNSELING AND TESTING

The college provides counseling service for students by assigning each student to a member of the faculty according to his particular field of interest. The faculty counselor helps the student to arrange his program of study at Charlotte College and approves the courses to be taken prior to the registration for each semester. Subsequent changes in courses must be made through the counselor. The Director, Registrar, and the Director of Student Personnel are also available to assist the student.

Students who desire help in clarifying their occupational goals may consult the Director of Student Personnel for occupational information sources and for information on aptitude and interest tests to aid in deciding on an occupation.

Each entering freshman is given an English placement test. The results of this examination help in determining the student's readiness for college English. Non-credit remedial work is required of students judged to be lacking in proficiency.

VETERANS AND WAR ORPHANS EDUCATION

Charlotte College provides educational opportunities for veterans and war orphans. Veterans seeking training under the provision of Public Law 894 (Federal Educational Rehabilitation Program), or Public Law 550 (Veterans' Readjustment Assistance Act of 1952), and war orphans seeking training under Public Law 634 (War Orphans' Educational Assistance Act of 1956) must enroll for a minimum of fourteen semester hours in order to receive full subsistence. Routines involving letters of eligibility, interruption of training, and the like are handled by the college office. Technical questions relating to the Veterans Administration are referred to the Charlotte Office of the Veterans Administration, which is located at 205 Liberty Life Building, Charlotte, N. C., telephone FRanklin 6-3692.

Before the time of registration, each veteran or war orphan who wishes to enter Charlotte College should do the following:

1. Make application for admission according to procedure described on pages 29 to 32 of the catalog. Forward to the registrar transcripts of all previous high school and/or college courses completed before or after induction or as a part of Army or Navy basic training or specialized training program, and also records of courses taken by correspondence through the United States Armed Forces Institute. The latter records may be secured from United States Armed Forces Institute, Madison, Wisconsin. All transcripts and records should be sent directly from the school, college, or other agency to Charlotte College.

2. Make application through the local Veterans Administration Office for a Certificate of Eligibility and Entitlement, or, if the veteran has interrupted his previous training in another institution, for a supplemental certificate of eligibility.

War orphans under Public Law 634 and veterans in training under Public Law 894 or 550 will receive an education and training allowance each month from the Government to meet part of the expenses of their training and living costs. Tuition, fees, books, supplies, and equipment will not be paid by the Government; instead, they will have to be paid out of the monthly allowance. A veteran or war orphan will get his monthly allowance some time after the end of each month of training completed. Before the Veterans Administration can pay him, the law requires a certification from the veteran or war orphan and Charlotte College that he was enrolled in and was pursuing his course during that period.

Veterans and war orphans attending Charlotte College are required to maintain satisfactory academic achievement and attendance.

EDUCATION FOR VOCATIONALLY HANDICAPPED

Men and women who have suffered a disability which renders them vocationally handicapped or which might be expected to render them vocationally handicapped are eligible for services of the Division of Vocational Rehabilitation. These services include vocational counseling and guidance, medical treatment, training (payments of costs such as books, fees, tuition), and placement. These services are available at no cost to the individual.

A Vocational Rehabilitation Officer is available in Charlotte for interviewing applicants. Appointments may be made by calling the Vocational Rehabilitation Office, Room 206, 517 Insurance Lane, telephone FRanklin 5-8686.

EMPLOYMENT SERVICE

The college assists students in securing part-time or full-time employment during their enrollment at Charlotte College and gives special attention to the placement of students who graduate in the terminal curricula. Application should be made in person at the office of the Director of Student Personnel.

STUDENT ACTIVITIES

STUDENT GOVERNMENT

It is the policy of Charlotte College to encourage and develop self-government of the students. The Student Government Association was organized in 1946, the first year of the Charlotte College Center, and has continued to function since that time.

The Student Council is composed of the president, vice-president, secretary, and treasurer of the Student Government Association; the president, vice-president, secretary-treasurer, and eight representatives of the Sophomore Class; the president, vice-president, and secretary-treasurer, and eight representatives of the Freshman Class; the chairmen of standing committees; and the editors and business managers of the publications. The functions of these school officers include serving the students in every possible way, forming certain committees vital to the Student Government program, and formulating, with the help of the students and faculty, certain school policies.

ATHLETICS

The athletic program is at present confined to basketball. The Charlotte College Owls play a full schedule of games against teams of other junior colleges who are members of the Virginia-Carolina Junior College Conference of the National Junior College Athletic Association. Additional sports will be added to the program as college enrollment and student interest indicate the need for them.

RECREATION

Various programs of recreation and entertainment are planned and carried out by the students under faculty supervision. Formal and informal dances are held throughout the year. Other programs which attract major interest and participation include coffee-hours, picnics, and receptions. Suggestions of the students are used for planning additional activities.

PUBLICATIONS

Literary Magazine

The Parnassian, a literary magazine, is published by the members of the Writers Club under the supervision of the English Department. This annual publication was first issued in the spring of 1957 and has as an aim the promotion of interest in good writing. The broad scope of subject matter gives an interesting presentation of student opinion and sentiment.

Newspaper

To provide information for all persons interested in Charlotte College, the students publish a newspaper, the Charlotte *Collegian.*

The purposes of the newspaper are to create a wholesome school spirit, to support the best traditions of the institution which it represents, to encourage worthy school activities, to promote scholarship, to encourage the ideals of true sportsmanship, and to record the history of the school.

Yearbook

Charlotte College's yearbook, *Si Si,* was first published in the spring of 1950. Since that time it has greatly increased in size and student interest. The purpose of the yearbook is to present a written and pictorial record of each college year. This publication is supported through advertisements and the Yearbook Fee. Every student who pays this fee is entitled to a copy of *Si Si.*

ORGANIZATIONS

ACADEMIC

Le Cercle Francais, the French Club, is open to all students interested in the language, customs and culture of the French people. Social and educational meetings are held for the purpose of broadening the members' knowledge of the French civilization and increasing their conversational ability in the French language.

The Physical Science Club of Charlotte College was organized to pursue science collectively. The club meets regularly on the third Saturday of every month. This meeting starts with dinner, which is followed by a speaker or a demonstrator. The club has a discussion group in which the members have the opportunity of expanding their ideas among persons with similar interests. The science teachers are the advisors of the club.

El Club Espanol is open to students from the Spanish classes who are interested in fellowship and conversation in Spanish. The meetings are informal and are usually conducted in both Spanish and English. Frequently Spanish speaking guests talk to members of the club about the Hispanic countries. The students also participate in the presentation of plays, songs, dances, and films.

The purposes of the Charlotte College Chapter of *Student National Education Association* is to inform students of the possibilities offered in the field of education, to help them plan their courses of study, and to give them insight into the actual teaching situation. An attempt is made, also, to direct the interest of others toward the teaching profession.

The *College Council on United Nations* seeks through discussion groups and inter-campus meetings to gain an understanding of the activities of the United Nations and of the problems facing its member nations. Its broader purpose is to encourage student interest in international affairs.

Its membership is open to all students, and foreign students are particularly urged to take part in the activities of the Council.

The Charlotte College Engineers' Club was formed in the fall of 1960 to give the student engineer a greater understanding of all phases of engineering. Through the assistance of the Charlotte Engineers' Club examples of enginering theory are presented in the form of practical applications.

HONORARY

Phi Theta Kappa is a national honorary scholastic society the object of which is to promote scholarship, to develop character, and to cultivate fellowship among students in the junior colleges of America. The Charlotte College chapter, Iota Lambda, was established in May, 1957. Students who display good moral character and, at the time of election, are within the scholastic upper ten per cent of the regularly enrolled student body are normally eligible for membership.

Sigma Tau Sigma is the national honor fraternity recognizing excellence in social science. The Charlotte College chapter, Alpha, was established in May, 1957, and is open to students displaying interest and achievement in the social sciences.

SERVICE

The *Charlotte College Civitan Club* is an organization devoted to building character and citizenship through service to the college community. Charlotte College Civitan Club is under the sponsorship of the Myers Park Civitan Club. All men students are eligible for membership.

SOCIAL

The principal aim of *Sigma Lambda Chi* fraternity is to promote the high standards and ideals of Charlotte College through wholesome social activities and services to the students and to the College.

LITERARY

The Writers' Club has as its purpose the discovering and developing of talent sufficient to provide a genuine

support toward the production of a literary magazine. Students showing an interest in writing are invited to become members of the Writers' Club.

MUSICAL

The Charlotte College Chorus, which was re-organized in 1956, has added much to the atmosphere of the school. The members of this group meet weekly with a dual purpose of enjoying singing together and improving their musical abilities. The Chorus furnishes musical programs for special events during the year. One semester hour of credit may be earned for each semester of participation. However, only four semester hours of credit may be earned in this program.

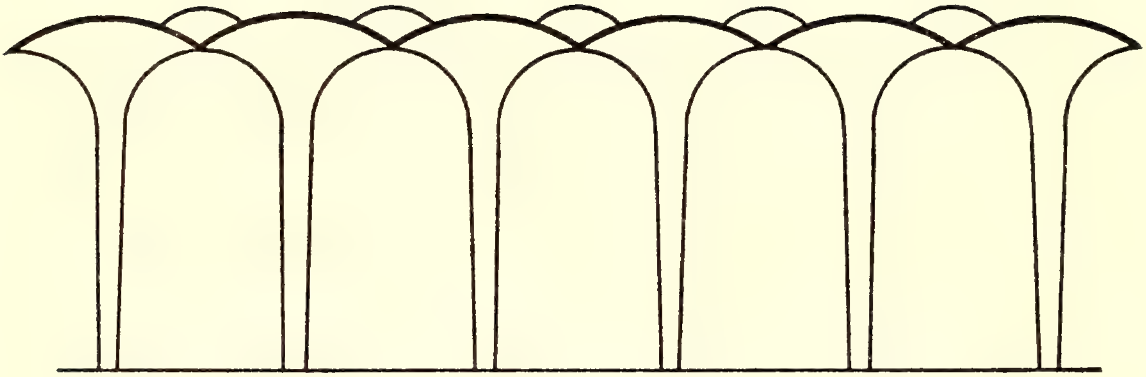
PUBLICITY

The purpose of the *Radio Workshop* of Charlotte College is to present programs of interest to the general public. The programs, presented by the students of Charlotte College in cooperation with local radio stations, offer practical experience in broadcasting as well as publicity for the College.

ADVISORY

The *Freshman Advisory Committee* was established at Charlotte College during the fall quarter, 1957. There is a dual purpose for this committee: to orient new students in the ways of Charlotte College and to assist the faculty advisers in guiding their students.

More than forty students are selected by the Student Council to serve on this committee.



GENERAL REGULATIONS

REQUIREMENTS FOR ADMISSION

TO FRESHMAN STANDING

Formal application for admission to freshman standing is made by submitting

(1) Personal data called for on an application form which may be obtained from the Charlotte College office.

(2) Record of satisfactory high school or preparatory school achievement. Such achievement is indicated by

- (a) the completion of an accredited four-year high school or preparatory school course, or its equivalent, which ordinarily means graduation;
- (b) sixteen acceptable units, defined below.

(3) Satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

SIXTEEN ACCEPTABLE UNITS: the prescribed units presented for admission are determined by the program the student wishes to enter, terminal or university parallel.

Terminal: The prescribed course requirements for the terminal curricula in Business Administration and Accounting or in General Business and Secretarial Science are as follows:

English	4 units
Mathematics	1-2 units
Natural Science	1 unit
United States History and Social Science	1-2 units
Electives	7-9 units

The prescribed course requirements for the terminal curricula in Civil Technology, Electrical Technology, and Mechanical Technology are the same as those for University Parallel students planning to enter the North Carolina State College of Agriculture and Engineering, given below.

University Parallel: The prescribed course requirements for all university parallel curricula are determined by the entrance requirements of the college or university to which the student plans to transfer his Charlotte College credits.

If a student plans to attend the University of North Carolina or the Woman's College of the University of North Carolina, the prescribed course requirements are as follows:

English	4 units
Algebra	1½ units
Plane Geometry	1 unit
Foreign language (2 years in 1 language)	2 units
United States History	1 unit
Natural Science (1 year with laboratory)	1 unit
Electives	5½ units

If a student plans to attend the North Carolina State College of Agriculture and Engineering of the University of North Carolina, the prescribed course requirements are as follows:

English	4 units
U. S. History and Social Science	1-2 units

Algebra	1½-3 units
*Plane and Solid Geometry	1-1½ units
Natural Science	1-2 units
Electives	3½-7½ units

Students who plan to enter other colleges should consult the catalogs of those institutions for entrance requirements.

Deficiencies: If a student enters with deficiencies in foreign language or mathematics, he may remove these deficiencies by taking prescribed courses at Charlotte College.

COLLEGE ENTRANCE EXAMINATION: All candidates for admission will be required to present satisfactory scores on the scholastic Aptitude Section of the College Entrance Examination.

Arrangement for these tests is the responsibility of the applicant and should be made with the College Entrance Examination Board, P. O. Box 592, Princeton, New Jersey, not less than one month before the date of the test. On the application for the test the student should specify that the scores be sent to the Registrar, Charlotte College, P. O. Box 20428, Charlotte 2, North Carolina.

College Entrance Board tests are given at a large number of examination centers throughout the United States, including Charlotte, North Carolina, on the following dates:

Wednesday, August 9, 1961
Saturday, December 2, 1961
Saturday, January 13, 1962
Saturday, March 3, 1962
Saturday, May 19, 1962
Wednesday, August 8, 1962.

ADVANCED PLACEMENT COURSE CREDIT: Any student may apply for course credit in appropriate subjects if he has had an Advanced Placement Course in secondary school (or equivalent) and has received a score of four or five on the Advanced Placement Test. These tests are

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* Solid Geometry is required only for School of Engineering and Agricultural Engineering.

given in May of each year by the College Entrance Examination Board.

TO ADVANCED STANDING

Formal application for admission to advanced standing is made by submitting

(1) Personal data called for on an application form which may be obtained from the Charlotte College office.

(2) A transcript of all former college work.

(3) Satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination. If such results are not available, the transfer student will be required to take the Scholastic Aptitude Section of the College Entrance Examination.

TO IRREGULAR STANDING

UNCLASSIFIED COLLEGE GRADE: A student who has completed two years of college work and wishes to take other required first or second year courses is termed an "Unclassified College Grade" student. In addition to meeting the requirements for advanced standing, such a student must also present a letter of permission from the senior institution to which he expects to transfer the credits earned at Charlotte College.

SPECIAL STUDENT: Students twenty-one years of age or older, who have not been able to secure the required number of units for admission to regular standing, will be allowed to take without credit any college course for which they are prepared. Grades thus earned will be recorded but not transferred because they carry no credit toward graduation.

AUDITORS: Students who wish to audit courses must register through the College office. Auditors receive no credit and are not required to attend classes, participate in class discussion, or take tests and examinations.

REQUIREMENT FOR READMISSION

A grade record which indicates satisfactory progress is a requirement for readmission. The college reserves the right to declare a student ineligible to return if his grades do not indicate such progress.

REGISTRATION

Registration for credit in any course is limited to the first week of the semester.

Under the semester system, five subjects of not less than fifteen semester hours total constitute a full college load, but a student may register for less work. Students who maintain a B average may obtain special permission from the Registrar to take an additional course.

SCHEDULE OF CLASSES

DAY CLASSES:

Day school classes are scheduled from eight in the morning until three in the afternoon.

EVENING CLASSES:

Classes are scheduled in the evening from four until ten o'clock.

Classes do not meet on Saturdays.

ATTENDANCE

Regular attendance in all classes is required of all students. Each student in good standing is allowed two free cuts from each class during the semester, provided this does not exceed two class or two laboratory hours. Three unexcused tardies count as an unexcused absence. After a third absence the student is placed on probation, and any further absence will result in a grade of F and may lead to suspension from college.

Students absent because of sickness or for some other acceptable reason must submit a written explanation within two days after returning to college. Absences not explained within two days will be recorded as unexcused. The full responsibility for submitting written explanation for absences and tardies rests upon the student.

A student who has been absent from class on account of prolonged or repeated illness or other emergencies forfeits the cuts which he might otherwise have been allowed for that semester. Students on academic probation will not be allowed any unexcused absences.

No student will be given credit for any course unless that student has attended at least 75 per cent of the total number of classes in that semester.

To make up a scheduled or previously announced test, the student must submit an absence excuse blank, a statement from home or the doctor, and a request to make up the test. This excuse, note from home or the doctor, and request to make up the test missed must be submitted within two days after returning to college. The Administrative Committee meets once each week to review requests to make up scheduled tests. These make-up tests are given at scheduled periods.

CHANGE OF COURSE

To change a course it is necessary for a student to get the written permission of his advisor, the instructor of the course, and the registrar. No student will be permitted to change a course after the first week of a semester.

WITHDRAWAL

Any student who leaves the college, except after the close of a semester, without written notification to the office, will receive a mark of F in all courses.

GRADING

The unit of measurement of college work is the semester hour. It represents one lecture hour per week for one semester. Two laboratory hours are considered to be equivalent to one lecture hour.

Letters are used to indicate the quality of work done. Each letter carries a quality point value for each semester hour of work attempted. The meaning of each letter with its accompanying quality point factor is as follows:

A	4 quality points	Excellent
B	3 quality points	Good
C	2 quality points	Fair
D	1 quality point	Passing
F	0 quality points	Failing
I	0 quality points	Incomplete
W	0 quality points	Official withdrawal

Quality Point Ratio: A student's quality point ratio is determined by multiplying the quality point factor for each grade by the number of hours received in that course and adding all accumulated quality points together then dividing by the total number of hours the student has attempted except those for which the student has received a grade of W.

Grade of I: The grade of I is assigned at the discretion of the instructor when a student who is otherwise passing has not completed all the work in the course. The missing work must be completed during the following term unless special arrangements are made through the Office of the Registrar. If the I is not removed during the specified time, a grade of F is automatically assigned.

Grade of W: The grade of W will be given for a course which is dropped on or before the last day to drop a course without failure. Courses given a grade of W do not count as hours attempted. If a student drops a course after the last day to drop a course without failure he will be given the grade of F unless the administrative committee feels that circumstances do not justify this penalty, in which case the grade of W will be given. If a student drops a course unofficially, he will be given a grade of F.

REQUIREMENTS FOR GRADUATION

A minimum of 60 semester hours of work is required for graduation, of which 30 must be earned at Charlotte

College. To graduate a student must have a quality point ratio of at least 2.0. Upon the satisfactory completion of any of the prescribed curricula listed in the following pages, a student is awarded a diploma and the title of "Associate in Arts."

TRANSCRIPTS OF RECORDS

Upon request of the student, academic credits earned in Charlotte College will be transferred to any college or university.

Each student is entitled to one official transcript of his work, provided that all accounts with the college have been settled satisfactorily. A student requesting an additional transcript should enclose one dollar for this service.

EXPENSES

TUITION: The tuition fee is six dollars per semester hour for residents of North Carolina and twelve dollars per semester hour for non-residents. The trustees have ruled that a student whose supporting parent (or guardian) has not been a *bona fide* resident of the State of North Carolina for more than six months immediately preceding the day of his first enrollment in the institution shall be termed an out-of-state student with the following exceptions:

(1) A student over twenty-one years of age at the time of his first matriculation who has resided in North Carolina for more than one year other than by virtue of attendance at another college or on temporary military assignment, preceding the day of his first enrollment.

(2) A student whose supporting parent is a regular employee of the Federal Government stationed in the State of North Carolina.

(3) A student whose supporting parent is a regular employee of the Federal Government who is employed outside of the State but who through law is permitted to retain his North Carolina citizenship.

The furnishing of incomplete or incorrect information regarding residence may result in the student's dismissal from college. The Registration Office determines each student's residence status on the basis of existing information and interpretation of regulations.

Registration Fee: A registration fee of ten dollars will be charged each semester.

Late Registration Fee: A fee of five dollars will be charged for students registering after the designated registration day each semester.

Laboratory Fees: Each student taking a laboratory course must pay in addition to tuition, a fee to help cover the cost of conducting laboratory experiments. This fee will vary with the course taken.

The following courses carry a laboratory fee of five dollars:

Bus. Ad. 101
Bus. Ad. 102
Botany 111
Botany 141
C. T. 221
E. T. 112
E. T. 121
E. T. 211
E. T. 221
E. T. 222
E. T. 231
E. T. 232
E. T. 251
Geography 138
Geology 241
Geology 242
Physics 201
Physics 202
Physics 211
Physics 212
Zoology 111
Zoology 141

The following courses carry a laboratory fee of ten dollars:

Chemistry 111
Chemistry 112
Chemistry 241
Chemistry 242

The following courses carry a laboratory fee of fifteen dollars:

C. T. 111
C. T. 112
C. T. 211
C. T. 212
C. T. 281
C. T. 282
M. E. 101
M. E. 102
M. T. 111
M. T. 112
M. T. 211
M. T. 212

E. T. 281	M. T. 281
E. T. 282	M. T. 282

STUDENT ACTIVITY FEE: The basic student activity fee is six dollars each semester; it is required of each student. This fee entitles the student to admission to all college athletic contests, to all dramatic productions, to all other entertainments sponsored by the college, and to a subscription to the college newspaper. In addition, there is a fee of five dollars charged each student upon his entrance in the fall semester; this fee entitles him to a copy of the yearbook.

GRADUATION FEE: All members of the graduating class will pay the graduation fee of eight dollars at the beginning of the spring semester of the year in which they expect to graduate. This fee covers the cost of the diploma and the rental of cap and gown.

PAYMENT OF FEES: All charges of tuition and fees are due and payable on the day of registration. Checks and money orders should be payable to Charlotte College.

REFUNDS: The registration fee is not refundable.

In case of withdrawal from college during the semester, the following refund schedule applies, counting from the last scheduled day of registration, but not including the last day:

First 10 days	80% refund
Second 10 days	60% refund
Third 10 days	40% refund
Fourth 10 days	20% refund
After 40 days	0% refund

OTHER EXPENSES: The estimated average cost of books and supplies per semester is forty dollars except that an additional fifty-five dollars is needed by entering engineering students to provide for drawing instruments, a slide rule, and supplies; this expense does not recur.

FINANCIAL ASSISTANCE

STUDENT LOAN FUNDS

THE CHARLOTTE COLLEGE STUDENT LOAN FUND was established in 1958 to provide funds which students might borrow for short-term emergencies. Under the terms of the loan fund, students may borrow up to $25.00 for 30 days. There is a 25c service charge, but no interest on the loan.

THE NATIONAL DEFENSE STUDENT LOAN FUND is also available at Charlotte College. Full-time students in need of financial assistance may borrow up to $1,000.00 per year for college-related expenses such as tuition, fees, books, and transportation. The interest rate is 3%, but there is no interest while the student is enrolled as a full-time college student. Loans must be repaid within ten years.

Application blanks and details on loan funds may be obtained from Mildred English, Director of Student Personnel, or W. L. Yarbrough, Business Manager.

SCHOLARSHIPS AND GRANTS

Friends of Charlotte College provide scholarships and grants ranging from $50.00 to $275.00 for worthy students to attend college.

In awarding scholarships and grants the following factors are considered:

1. High school record
2. Scholastic potential
3. Financial need
4. Recommendations
5. Participation in school and community activities

Students are encouraged to apply for financial aid in the spring for the next academic year since most awards are made at that time. However, applications will be considered throughout the year if funds are available.

Applications for financial aid and further information or counseling in financial matters may be obtained from Mildred English, Director of Student Personnel, P. O. Box 20428, Charlotte, North Carolina.

Some of the organizations and individuals who provide scholarships are:

Altrusa Club of Charlotte
Alumni of Charlotte College
American Business Women's Association
Miss Brycie Baber
Charlotte Association of Insurance Women
Charlotte Chapter, National Association of Accountants
Charlotte Chemical Laboratories
Daughters of the American Revolution,
  Mecklenburg Chapter
Department of Educational Secretaries
Easterby and Mumaw, Inc., Employees
Harrison-Wright
Jefferson Standard Foundation
Mr. L. G. Mumaw
North Carolina Professional Engineers' Society,
  Piedmont Chapter
North Carolina Professional Engineers' Society,
  Piedmont Chapter, Ladies' Auxiliary
Optimist Club
Panhellenic Congress of Charlotte
Phi Theta Kappa, Charlotte College Chapter
Pilot Club
P O E Sisterhood
Professional Construction Estimators' Association
Quota Club
Sigma Lambda Chi, Charlotte College
Mr. and Mrs. J. L. Winningham

Memorial Funds have been contributed in honor of the following:

Herbert Conner
E. H. Garinger
Harry P. Harding
Cecil Prince
Harry Shuford
B. O. Vannort

AWARDS

The Bonnie E. Cone Award is given annually to a freshman student who has demonstrated fine college spirit and made a significant contribution to college life.

The Bill Mitchell Award: Two members of the graduating class who have shown outstanding qualities of scholarship and leadership and maintained an attitude of unselfish interest in the welfare of their fellow students and of the college as a whole are selected for the award.

The Chemistry Award is given annually to the student with the highest scholastic average in freshman chemistry.

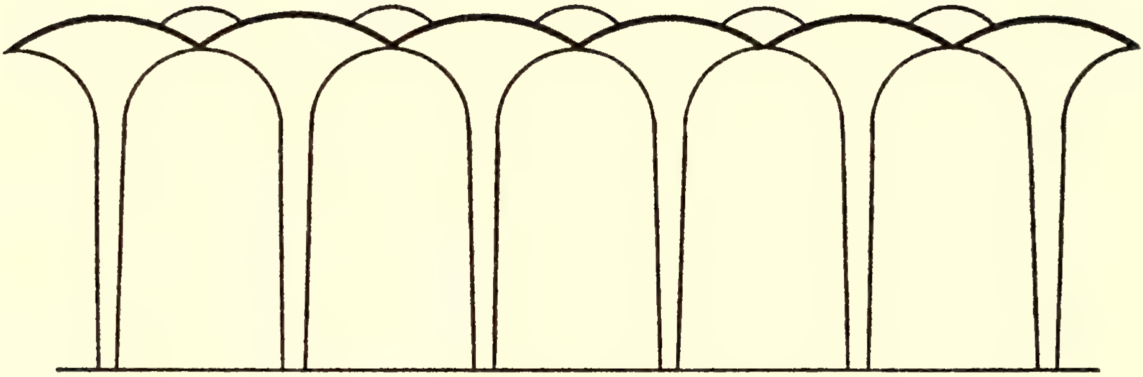
The Mathematics Award is given annually to the student with the highest scholastic average in freshman engineering mathematics.

The Physics Award is given annually to the sophomore with the highest scholastic average in engineering physics.

HONORS

Dean's List: The Dean's List is a record of all students whose academic record merits special recognition from the college. In order to qualify for the Dean's List, a student must take a full load of five subjects (at least fifteen semester hours of work) and maintain an average of B or better, with no grade lower than a C.

Commencement Marshals: The rising sophomores who have maintained the highest scholastic average during their freshman year are honored by being named Commencement Marshals. The marshal who has the best academic record is designated chief marshal.



PROGRAMS OF STUDY

The programs of study contained in the following pages are classified as *University Parallel* or *Terminal.* Curricula in the former category are intended for students who plan to transfer to a university or senior college after completion of lower division work at Charlotte College. Those in the second category are intended for students who do not plan to enter senior institutions, but wish to gain the best possible training in specific fields during two years of college and to enter their chosen vocations on graduation from Charlotte College.

UNIVERSITY PARALLEL CURRICULA

Any of the academic courses offered by the college, if properly selected, should be accepted for transfer to a senior institution and should count, without loss of credit hours, toward a bachelor's degree. But a student who expects to continue his college career or to enter a professional school after leaving junior college should consult the catalog of the institution he expects to attend and select his courses accordingly. Although the registrar or a counselor will gladly assist the student in choosing the courses that will assure junior standing in the senior institution, the final responsibility for selecting the proper courses must rest with the student.

AGRICULTURAL SCIENCE (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
Mathematics 106-107 (Algebra and Trigonometry) OR *Mathematics 101-102 (Freshman Engineering Mathematics)	6-9
History 101-102 (Development of Civilization)	6
Botany 111 (Introductory Plant Biology)	4
Zoology 111 (Introductory Animal Biology)	4
Choose six hours: Psychology 101 (Introduction) English 109 (Public Speaking) Philosophy 101 (Introduction) Political Science 201-202 (Government of U. S.)	6

SECOND YEAR

History 201-202 (American History)	6
Chemistry 111-112 (General Chemistry) OR Physics 211-212 (General Physics)	8-10
English 201-202 (English Literature)	6
Choose twelve hours: Mathematics 201-202 (Sophomore Engineering Mathematics) Business Administration 101 (Accounting) Business Administration 105 (Business Law) Geology 241 (Physical) Political Science 201-202 (Government of U. S.)	12

BUSINESS ADMINISTRATION (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6

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* A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

†Mathematics 106-107 (Algebra and Trigonometry)
OR
†Mathematics 101-102 (Freshman Engineering Mathematics) 6-9

Choose two courses:
Botany 111 (Plant Biology)
Zoology 111 (Animal Biology)
Geography 138 (Introduction to Geography) 8

**Choose one sequence*:
French 201-202 (Intermediate French)
Spanish 201-202 (Intermediate Spanish)
German 201-202 (Intermediate German) 6

SECOND YEAR

English 201-202 (English Literature) 6
Economics 201-202 (General Economics) 6
Political Science 201 (Government of the U. S.) 3

Choose one:
French 221 (French Literature)
Spanish 221 (Spanish Literature)
German 221 (German Literature)
Philosophy 101 (Introduction to Philosophy) 3

Choose one course:
History 201-202 (American History)
Philosophy 101-102 (Introduction to Philosophy)
Political Science 202 (U. S. Government)
Psychology 101 (Introduction to Psychology) 3

***Choose one sequence*:
Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical)

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† A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

* The elementary course, 101-102, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language courses 101-102 and 201-202 will fulfill the requirement of language 201-202 and either 221 or Philosophy 101.

** A student must have two courses in natural sciences or one course in a natural science and one course in mathematics. These courses must include one course in a physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

Physics 211-212 (General Physics)	
Mathematics 201-202 (Sophomore Engineering Mathematics)	8-10

EDUCATION - ELEMENTARY (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
†Mathematics 106-107 (Algebra and Trigonometry)	
OR	
†Mathematics 101-102 (Freshman Engineering Mathematics)	6-9
Botany 111 (Plant Biology) or Zoology 111 (Animal Biology)	4
**Choose one sequence*:	
French 201-202 (Intermediate French)	
Spanish 201-202 (Intermediate Spanish)	6
Geography 138 (Introduction to Geography)	4

SECOND YEAR

English 201-202 (English Literature)	6
History 201-202 (American History)	6
French 221 (French Literature) or Spanish 221 (Spanish Literature)	3
Choose any six hours:	
Economics 201-202 (General Economics)	
Education 101 (Introduction to Education)	
Philosophy 101-102 (Introduction and Development)	
Political Science 201 (U. S. Government)	
Sociology 101-102 (Introduction and Social Problems)	6

† A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

* The elementary course, 101-102, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language courses 101-102 and 201-202 will fulfill the requirement of language 201-202 and either 221 or Philosophy 101.

Choose one sequence:

Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical Geology)
Physics 211-212 (General Physics)
Mathematics 201-202 (Analytical Geometry and Calculus) 8-10

EDUCATION - SECONDARY (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills) 6
History 101-102 (Development of Civilization) 6
†Mathematics 106-107 (Algebra and Trigonometry)
OR
†Mathematics 101-102 (Freshman Engineering Mathematics) 6-9

Choose one sequence:

Chemistry 111-112 (General Chemistry)
Physics 211-212 (General Physics) 8-10

**Choose one sequence*:

French 201-202 (Intermediate French)
Spanish 201-202 (Intermediate Spanish) 6

SECOND YEAR

English 201-202 (English Literature) 6
French 221 (French Literature) or Spanish 221 (Spanish Literature) 3

Choose eight hours:

Geology 241-242 (Physical and Historical Geology)

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† A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

* The elementary course, 101-102, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language courses 101-102 and 201-202 will fulfill the requirement of language 201-202 and either 221 or Philosophy 101.

**Botany 111 or Botany 141
**Zoology 111 or Zoology 141
Geography 138 (Introduction to Geography)
Mathematics 201-202 (Analytical Geometry and Calculus) 8-9

Choose twelve hours:

Economics 201-202 (General Economics)
Education 101 (Introduction to Education)
History 201-202 (American History)
Philosophy 101-102 (Introduction and Development)
Political Science 201-202 or 212 (U. S. Government)
Sociology 101-102 (Introduction and Social Problems) 12

ENGINEERING CURRICULA

In cooperation with the Engineering School of North Carolina State College, Charlotte College has developed a correlated program for the first two years of engineering. After completing the two years at Charlotte College, the student with C or better average may transfer to North Carolina State College to complete the final two years of the undergraduate program.

In all branches of engineering the requirements for the first year are the same. In the second year the choice of electives must be according to the chosen field. The detailed course of study for the last two years can be obtained from the State College catalog.

If a student plans to transfer to an engineering school other than North Carolina State College, the registrar will assist in planning his curriculum accordingly.

From the engineering curricula suggested below a student from another field of engineering may also complete the requirements for junior standing at North Carolina State College.

**Students who wish to take further work in botany and zoology should take Botany 111 and Zoology 111 in place of History 101-102 in the first year. Botany 141 and Zoology 141 may then be elected in the sophomore year.

CHEMICAL ENGINEERING (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

SECOND YEAR

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
Chemistry 241-242 (Quantitative Analysis)	8
Choose twelve hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	12

CIVIL ENGINEERING (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

SECOND YEAR

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
C. E. 201-202 (Surveying)	8
E. M. 211 (Statics)	3
Choose nine hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	9

ELECTRICAL ENGINEERING (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

Second Year

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
E. E. 201-202 (Fields and Circuits)	8
Choose twelve hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	12

GEOLOGICAL ENGINEERING (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

Second Year

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
Chemistry 241-242 (Quantitative Analysis)	8
Geology 241-242 (Physical and Historical)	8
Choose six hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	6

MECHANICAL ENGINEERING (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

SECOND YEAR

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
E. M. 211 (Statics)	3

Choose fifteen hours:

Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	15

JOURNALISM (University Parallel)

Students who intend to major in Journalism are advised to take the Liberal Arts curriculum.

LIBERAL ARTS (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
†Mathematics 106-107 (Algebra and Trigonometry)	
OR	
†Mathematics 101-102 (Freshman Engineering Mathematics)	6-9

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† A student who plans to continue mathematics beyond the level of plane trigonometry should take Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite for Mathematics 201.

Choose one sequence:
Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical)
Physics 211-212 (General Physics)
Botany 111 (Plant Biology), Zoology 111 (Animal Biology), Geography 138 (Introduction to Geography) 8-10

**Choose one sequence*:
French 201-202 (Intermediate French)
Spanish 201-202 (Intermediate Spanish)
German 201-202 (Intermediate German) 6

SECOND YEAR

English 201-202 (English Literature) 6

Choose one sequence:
French 221-222 (French Literature)
Spanish 221-222 (Spanish Literature)
German 221-222 (German Literature) 6

Choose twelve hours:
Economics 201-202 (General Economics)
History 201-202 (American History)
Philosophy 101-102 (Introduction and Development)
Political Science 201-202 or 212 (U. S. Government)
§Psychology 101 (Introduction)
Sociology 101-102 (Introduction and Social Problems) 12

***Choose one sequence*:
Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical)
Physics 211-212 (General Physics)
Mathematics 201-202 (Analytical Geometry and Calculus) 8-10

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* A student placed in foreign language course number 101 may meet the requirements with courses 101-102 and 201-202, provided he has no entrance deficiency in foreign language.

§ Not for psychology majors.

**A student must have two courses in natural sciences or one course in a natural science and one course in mathematics. These courses must include one course in a physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

PRE-LAW (University Parallel)

Students electing the pre-law course may do so in one of the following ways:

(1) Take the regular liberal arts course.
(2) Take the regular business administration course.

PRE-MEDICINE (University Parallel)

First Year

English 101-102 (Communications Skills)	6
Botany 111 (Introductory Plant Biology)	4
Zoology 111 (Introductory Animal Biology)	4
Mathematics 106-107 (Algebra and Trigonometry)	6
Chemistry 111-112 (General Chemistry)	10
**Choose one sequence*:	
French 201-202 (Intermediate French)	
Spanish 201-202 (Intermediate Spanish)	
German 201-202 (Intermediate German)	6

Second Year

English 201-202 (English Literature)	6
Physics 211-212 (General Physics)	8
Chemistry 211-212 (Quantitative Analysis)	8
Botany 141 (Plant Biology)	4
Zoology 141 (Animal Biology)	4
Choose one sequence:	
French 221-222 (French Literature)	
Spanish 221-222 (Spanish Literature)	
German 221-222 (German Literature)	6

SCIENCE (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6

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* A student placed in language 101 may meet the requirements with courses 101-102 and 201-202, provided he has no entrance deficiency in foreign language.

†Mathematics 106-107 (Algebra and Trigonometry) OR †Mathematics 101-102 (Freshman Engineering Mathematics)	6-9
Chemistry 111-112 (General Chemistry)	10
*German 201-202 (Intermediate German)	6

SECOND YEAR

English 201-202 (English Literature)	6
German 221-222 (German Literature)	6
**Physics 211-212 (General Physics)	8
**Mathematics 201-202 (Analytical Geometry and Calculus)	9
Choose According to Major:	
Chemistry 241-242 (Quantitative Analysis) Geology 241-242 (Physical and Historical) Geography 138 (Introduction to Geography) History 201-202 (American History)	6-12

PRE-OPTOMETRY (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
Botany 111 (Introductory Plant Biology)	4
Zoology 111 (Introductory Animal Biology)	4
Mathematics 106-107 (Algebra and Trigonometry)	6
Chemistry 111-112 (General Chemistry)	10
**Choose one*:	
French 201-202 (Intermediate French) Spanish 201-202 (Intermediate Spanish) German 201-202 (Intermediate German)	6

SECOND YEAR

English 201-202 (English Literature)	6

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† A student who plans to continue mathematics beyond the level of plane trigonometry should take Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite for Mathematics 201.

*A student placed in foreign language course number 101 may meet the requirements with courses 101-102 and 201-202, provided he has no entrance deficiency in foreign language.

** Not for Geology Majors.

Physics 211-212 (General Physics)	8
Zoology 141 (Animal Biology)	4
Psychology 101 (Introduction to Psychology)	3

Choose six hours:

Botany 141 (Plant Biology)	
History 101-102 (Development of Civilization)	
English 109 (Public Speaking)	
Political Science 201 (U. S. Government)	6

Choose one sequence:

French 221-222 (French Literature)	
Spanish 221-222 (Spanish Literature)	
German 221-222 (German Literature)	6

PRE-PHARMACY (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 106-107 (Algebra and Trigonometry)	6
Chemistry 111-112 (General Chemistry)	10

**Choose one sequence:*

French 201-202 (Intermediate French)	
Spanish 201-202 (Intermediate Spanish)	
German 201-202 (Intermediate German)	6

TERMINAL CURRICULA

The terminal curricula are intended primarily for students who expect to complete their college program in two years or less and go directly into employment. However, some work in each program is transferable to senior colleges so that a person can transfer from a terminal curriculum to a university parellel curriculum without losing all of his credits.

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* A student may meet the requirements with courses 101-102, provided he has no entrance deficiencies in foreign language.

BUSINESS ADMINISTRATION AND ACCOUNTING (Terminal)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Business Administration 101-102 (Accounting Principles)	8
Mathematics 111 (Business Mathematics)	3
English 121 (Business English)	3
†Electives	6

Second Year

English 201-202 (English Literature)	6
Economics 201-202 (General Economics)	6
Political Science 201 (U. S. Government)	3
Business Administration 105 (Business Law)	3
Electives	12

GENERAL BUSINESS AND SECRETARIAL SCIENCE COURSE (Terminal)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Business Education 105-106 (Beginning Typewriting)	6
Business Education 107-108 (Beginning Shorthand)	6
Business Administration 101-102 (Accounting Principles)	8

Second Year

English 121 (Business English)	3
Business Education 205-206 (Advanced Typewriting)	6
Business Education 207-208 (Advanced Dictation)	6
Business Education 232 (Office Machines)	3
Business Education 233 (Office Practice)	3
Electives	12

†Typewriting required of students not already proficient.

TECHNICAL EDUCATION CURRICULA (Terminal)

Charlotte College offers several two-year programs of technical training for individuals preparing for positions in production, operation, maintenance, sales and supervision phases of industry. The primary purpose of these programs is to train individuals for occupations between the skilled crafts and the highly scientific professions.

CIVIL TECHNOLOGY (Terminal)

Civil Technology covers an extremely broad field, since it is related to practically every technical activity. The civil technician may help to build the factories of the mechanical industries or the power generating plants of the electrical industry. The curriculum instructs the student in the preparation of plans, the estimate of materials and costs, use of surveying instruments, and supervision of construction work. This curriculum fills a great need in North Carolina by preparing the student to qualify for the position of Licensed Surveyor. He will be prepared to work as a civil engineer's assistant, a construction supervisor, draftsman, estimator, highway technician, inspector, or photogrammetrist.

C-Class Hours L-Laboratory Hours T-Total Semester Credit Hours

FIRST SEMESTER	C	L	T
English 101 (Communications Skills)	3	0	3
Math. 106 (Algebra and Trigonometry)	4	0	4
M. E. 101 (Engineering Graphics)	0	4	2
Physics 211 (General Physics)	3	2	4
Civil T. 111 (Basic Surveying)	2	3	3
Elec. T. 111 (Direct Current Circuits)	2	0	2
Mech. T. 111 (Metalwork)	0	3	1
SECOND SEMESTER			
English 102 (Communications Skills)	3	0	3
Math. 107 (Algebra and Trigonometry)	4	0	4
M. E. 102 (Engineering Graphics)	0	4	2
Physics 212 (General Physics)	3	2	4

	C	L	T
Civil T. 112 (Basic Surveying)	2	3	3
Elec. T. 112 (Alternating Current Circuits)	2	3	3
Mech. T. 112 (Metalwork)	0	3	1
THIRD SEMESTER			
Civil T. 211 (Advanced Surveying)	2	3	3
Civil T. 221 (Construction Materials)	2	2	3
Civil T. 231 (Construction Equipment)	2	0	2
Civil T. 241 (Highway and Airport Construction)	2	0	2
Civil T. 251 (Hydraulics)	2	0	2
Civil T. 281 (Structural Drawing)	0	4	2
Mech. T. 241 (Mechanics of Materials)	4	0	4
FOURTH SEMESTER			
Bus. Ad. 105 (Business Law)	3	0	3
Civil T. 212 (Advanced Surveying)	2	3	3
Civil T. 222 (Concrete and Steel Structures)	2	0	2
Civil T. 242 (Building Construction)	2	0	2
Civil T. 252 (Water Supply and Sewerage)	2	0	2
Civil T. 271 (Construction Estimating)	3	0	3
Civil T. 282 (Structural Drawing)	0	4	2
Elec. T. 261 (Electrical Codes)	2	0	2

ELECTRICAL TECHNOLOGY (Terminal)

The curriculum in Electrical Technology provides general training in the basic studies of English, physics, mathematics, and drawing; as well as specialized training in electrical and electronic theory, circuitry, instrumentation, and practices. Advanced courses fall in the fields of radio, television, radar, transmission, electric power production, distribution, and utilization.

C-Class Hours L-Laboratory Hours T-Total Semester Credit Hours

FIRST SEMESTER	C	L	T
English 101 (Communications Skills)	3	0	3
Math. 101 (Engineering Mathematics)	6	0	5
M. E. 101 (Engineering Graphics)	0	4	2
Physics 211 (General Physics)	3	2	4
Elec. T. 111 (Direct Current Circuits)	2	0	2

	C	L	T
Mech. T. 111 (Metalwork)	0	3	1
SECOND SEMESTER			
English 102 (Communications Skills)	3	0	3
Math. 102 (Engineering Mathematics)	5	0	4
Physics 212 (General Physics)	3	2	4
Elec. T. 112 (Alternating Current Circuits)	2	2	3
Elec. T. 121 (Basic Electronics)	2	2	3
Mech. T. 112 (Metalwork)	0	3	1
THIRD SEMESTER			
Math. 214 (Electronic Mathematics)	4	0	4
Elec. T. 211 (Electrical Machines)	2	2	3
Elec. T. 221 (Advanced Electronics)	2	2	3
Elec. T. 223 (Microwave Technology)	2	0	2
Elec. T. 231 (Radio Technology)	2	2	3
Elec. T. 241 (Illumination)	2	0	2
Elec. T. 281 (Electrical Drawing)	0	2	1
FOURTH SEMESTER			
Business Administration 105 (Business Law)	3	0	3
Elec. T. 222 (Industrial Electronics)	2	2	3
Elec. T. 232 (Radio Technology)	2	2	3
Elec. T. 251 (Television Technology)	2	2	3
Elec. T. 261 (Electrical Codes)	2	0	2
Elec. T. 271 (Electrical Distribution)	2	0	2
Elec. T. 282 (Electrical Drawing)	0	2	1

MECHANICAL TECHNOLOGY (Terminal)

The field of Mechanical Technology embraces the manufacture and production of mechanical products and the tools, machines, and processes by which they are made. Emphasis in this curriculum is placed on principles and practices, general and specialized theory, from the standpoint of supervision rather than with a view toward development of manual skills. Technical institute graduates receive the type of general education that is basic to, and in demand by, companies in practically every line of business.

C-Class Hours L-Laboratory Hours T-Total Semester Credit Hours

FIRST SEMESTER

	C	L	T
English 101 (Communications Skills)	3	0	3
Math. 106 (Algebra and Trigonometry)	4	0	4
M. E. 101 (Engineering Graphics)	0	4	2
Physics 211 (General Physics)	3	2	4
Civil T. 111 (Basic Surveying)	2	3	3
Elec. T. 111 (Direct Current Circuits)	2	0	2
Mech. T. 111 (Metalwork)	0	3	1

SECOND SEMESTER

English 102 (Communications Skills)	3	0	3
Math. 107 (Algebra and Trigonometry)	4	0	4
M. E. 102 (Engineering Graphics)	0	4	2
Physics 212 (General Physics)	3	2	4
Civil T. 112 (Basic Surveying)	2	3	3
Elec. T. 112 (Alternating Current Circuits)	2	2	3
Mech. T. 112 (Metalwork)	0	3	1

THIRD SEMESTER

Elec. T. 211 (Electrical Machines)	2	2	3
Mech. T. 211 (Woodwork)	0	3	1
Mech. T. 221 (Manufacturing Processes)	2	0	2
Mech. T. 231 (Metallurgy)	2	0	2
Mech. T. 241 (Mechanics of Materials)	4	0	4
Mech. T. 251 (Motion and Time Study)	4	0	4
Mech. T. 281 (Tool Drawing)	0	4	2

FOURTH SEMESTER

Bus. Ad. 105 (Business Law)	3	0	3
Elec. T. 222 (Industrial Electronics)	2	2	3
Mech. T. 212 (Welding)	0	3	1
Mech. T. 252 (Estimating for Manufacture)	3	0	3
Mech. T. 261 (Industrial Management)	2	0	2
Mech. T. 271 (Inspection Methods)	2	0	2
Mech. T. 282 (Machine Drawing)	0	4	2

DESCRIPTION OF COURSES

Unless otherwise specified, courses meet one hour of lecture per week for each semester hour of credit given. Numbers in parentheses refer to number of semester hours' credit each course carries.

BOTANY

BOTANY 111. (4) INTRODUCTORY PLANT BIOLOGY

The study of plants in relationship to their habitat, distribution, and significance to animals and to human beings. The elements of horticulture, especially in relation to home gardening and landscaping, are also stressed. Plant inheritance and breeding are emphasized.

Three lecture and two laboratory hours a week with one or more one-day field trips, by arrangement.

BOTANY 141. (4) PLANT BIOLOGY

Prerequisite: Botany 111.

The major plant groups, with selected life histories, and the study of living field specimens are emphasized in this course. Plant anatomy, histology, and physiology also take up a considerable portion of the class and laboratory time.

Three lecture and two laboratory hours a week with two or more one-day field trips to be arranged.

BUSINESS ADMINISTRATION

BUSINESS ADMINISTRATION 101. (4) INTRODUCTION TO ACCOUNTING

Topics covered include the theory of debits and credits and the construction of the trial balance, work sheet, profit and loss statement, and balance sheet. The problems and materials used are characteristic of the single proprietorship form of business organization.

Three lecture and two laboratory hours a week.

BUSINESS ADMINISTRATION 102. (4) ACCOUNTING PRINCIPLES
Prerequisite: Business Administration 101.

The fundamental principles of accounting are reemphasized and special attention is given to the partnership form of business organization, both from the point of view of the nature of the partnership and from the point of view of the accounting problems peculiar to the partnership form of organization. The corporation is considered and attention is given to the general characteristics and to the fundamental problems of corporation accounting.

Three lecture and two laboratory hours a week.

BUSINESS ADMINISTRATION 103. (3) PRINCIPLES OF ADVERTISING

A survey of all forms of advertising. Principles of layout; copywriting; production methods; campaign preparation; media selection.

BUSINESS ADMINISTRATION 104. (2) SELLING

Fundamental principles of wholesale and retail selling. Each student selects a sales proposition to analyze and sell to a qualified customer.

BUSINESS ADMINISTRATION 105. (3) BUSINESS LAW

A study of the main principles of law which govern the daily conduct of business with emphasis on contracts and agency.

BUSINESS ADMINISTRATION 204. (3) SALES MANAGEMENT

Organization of a sales department; assignment of responsibilities; techniques of selecting the sales force; equipping and training salesmen; territories, routes, compensation; methods of stimulating salesmen; methods of sales control and sales promotion; relation of sales manager to other department heads in an organization.

BUSINESS ADMINISTRATION 208. (3) PUBLIC RELATIONS

A study of public relations principles and practices with special attention to its tools, media, responsibilities, and potentialities.

BUSINESS ADMINISTRATION 231. (3) PERSONNEL MANAGEMENT

This course provides job instruction training to improve the supervisor's efficiency in training personnel; supervisory techniques to help the supervisor develop his ability to lead his personnel more effectively; planned discussion and demonstrations of tested techniques to be used in solving problems arising from human relations; employment techniques to assist personnel manager in interviewing, testing, making job analyses, and keeping personnel records.

BUSINESS EDUCATION

BUSINESS EDUCATION 105-106. (3-3) BEGINNING TYPEWRITING

The work in beginning typewriting includes learning the keyboard, operating the parts of the machine, care of the machine, writing simple letters, simple tabulation, continuity writing. In this course more stress is given to accuracy than to speed.

BUSINESS EDUCATION 107-108. (3-3) BEGINNING SHORTHAND

Dictation is begun early in the course, stressing accuracy and form in shorthand penmanship. A consistent speed of sixty words a minute on new material with ninety-five per cent accuracy is required.

BUSINESS EDUCATION 205-206. (3-3) ADVANCED TYPEWRITING

The work includes study of different styles of business letters, manuscript copy, making carbon copies, tabulation, business reports, legal documents, effective display of typed matter. At the end of this course the students are expected to do straight copy at fifty-five words per minute with a minimum of errors.

BUSINESS EDUCATION 207-208. (3-3) ADVANCED DICTATION

The course consists of dictation and transcription with a thorough review of shorthand theory. Accuracy, speed, neatness, and comprehension are developed. Intensive drill is given in the production of mailable transcripts. A minimum dictation rate of one hundred words per minute must be consistently maintained with a high percentage of accuracy.

BUSINESS EDUCATION 232. (3) OFFICE MACHINES

A fair degree of skill is developed in the use of machines such as dictating machines, adding and calculating machines, duplicating machines, filing equipment, and miscellaneous.

BUSINESS EDUCATION 233. (3) OFFICE PRACTICE

Prerequisite: *Business Education* 105-106 *and Business Education* 107-108.

An effort is made to observe and direct the student in developing those characteristics and personality traits which are desirable and essential in the business office. The main phases of study are office behavior, office methods and procedure, and civil service training. Whenever possible actual office situations are created so that the student is trained not in theory alone, but in practice.

CHEMISTRY

CHEMISTRY 111-112. (5-5) GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS

Prerequisite or co-requisite: *Mathematics* 106 *or Mathematics* 101.

The first six months, general chemistry: fundamental principles, theories, and laws of chemistry; occurrence, preparation, properties, and uses of selected elements and their compounds; equilibrium, oxidation and reduction; metallurgy; introduction to organic and nuclear chemistry. The last three months, qualitative analysis: reactions of electrolytes in solution, chemical equilibrium, semi-microanalytical techniques, identification of common cations and anions; eight unknowns.

Three lecture and four laboratory hours a week.

CHEMISTRY 241. (4) QUANTITATIVE VOLUMETRIC ANALYSIS

Prerequisite: *Chemistry* 112.

Volumetric analyses of potassium hydrogen phthalate by alkalimetry, soda ash by acidimetry, iron and calcium by permanganate redox, antimony by iodimetry, chloride by Volhard method, and nitrogen by Kjeldahl method; seven unknowns.

Two lectures and six laboratory hours a week.

CHEMISTRY 242. (4) QUANTITATIVE GRAVIMETRIC AND INSTRUMENTAL ANALYSIS

Prerequisite: *Chemistry* 241.

Prerequisite or co-requisite: *Physics* 212 *or Physics* 202.

Gravimetric analyses of chloride, iron, and sulfur; analysis of copper by electrodeposition; analysis of manganese in steel by visual and electrical colorimetry; determination of iron by the classical potentiometric method; titration of phosphoric acid by the pH meter; seven unknowns.

Two lecture and six laboratory hours a week.

CIVIL ENGINEERING

See Engineering.

CIVIL TECHNOLOGY

CIVIL TECHNOLOGY 111. (3) BASIC SURVEYING

Co-requisite: *Mathematics* 106.

This is the beginning course in surveying and introduces the student to the use, adjustment, and care of instruments. The student is given field problems involving the use of chains, tapes, levels, and transits.

Two lecture and three laboratory hours per week.

CIVIL TECHNOLOGY 112. (3) BASIC SURVEYING

Prerequisite: *Civil Technology* 111.

Topics covered in this course include land surveying, traverse lines, elementary astronomical surveying, and city surveying.

Two lecture and three laboratory hours per week.

CIVIL TECHNOLOGY 211. (3) ADVANCED SURVEYING

Prerequisite: *Civil Technology* 112.

The location of curbs and gutters, a study of drainage control, and the laying out of water and sewerage systems are among the subjects covered in this course. A study is made of all phases of surveying concerned with highway location and construction. The student is given field practice which includes all the steps in route surveying from the reconnaissance and preliminary survey to superelevation and the setting of the grade.

Two lecture and three laboratory hours per week.

CIVIL TECHNOLOGY 212. (3) ADVANCED SURVEYING

Prerequisite: *Civil Technology* 211.

Procedures studied in this course are cross-section surveys, transit-stadia surveys, the plane-table method, and the photogrammetric method of topographic surveying. In addition, contour, boundary, and profile mapping methods as well as the use of map projection and aerial photographs will be covered.

Two lecture and three laboratory hours per week.

CIVIL TECHNOLOGY 221. (3) CONSTRUCTION MATERIALS

This course is designed to familiarize the student with materials of construction and their methods of manufacture. Standard tests of basic construction materials will be performed in the materials testing laboratory.

Two lecture and two laboratory hours per week.

CIVIL TECHNOLOGY 222. (2) CONCRETE AND STEEL STRUCTURES

Prerequisite: *Civil Technology* 221 *and Mechanical Technology* 241.

This course presents the fundamentals of structural theory as it applies to the analysis and design of reinforced concrete members. The course will also acquaint the student with the design procedures and techniques commonly employed in engineering offices. Among the topics studied are: structural analysis; bond, shear, and diagonal tension; columns; footings; retaining walls; bridge arches; prestressed concrete beams; and the design of buildings.

CIVIL TECHNOLOGY 231. (2) CONSTRUCTION EQUIPMENT

Prerequisite: *Mathematics* 107.

The application of engineering analysis to construction is demonstrated to the student in this course. Numerous examples are presented to familiarize the student with the use and maintenance of construction equipment as well as construction planning and methods.

CIVIL TECHNOLOGY 241. (2) HIGHWAY AND AIRPORT CONSTRUCTION

Prerequisite: *Civil Technology* 112.

General highway construction, including location, drainage, grading, surfacing, and maintenance, is surveyed in this course. The planning, construction, development, and utilization of airports is also considered.

CIVIL TECHNOLOGY 242. (2) BUILDING CONSTRUCTION

Prerequisite: *Civil Technology* 241.

The various methods of building construction are studied in this course. Particular attention is paid to the behavior of soils in supporting foundations, types of foundations, cavity-wall construction, laminated-wood construction, and others.

CIVIL TECHNOLOGY 251. (2) HYDRAULICS

Prerequisite: *Physics* 211.

A study is made of the basic principles of hydraulics and their effect on static pressure, pipes, channels, and weirs. Among the topics studied are: hydrostatics, fluid flow, orifices, tubes, nozzles, weirs, pipe flow, flow in open channels, viscosity, surface tension, compressibility, models, and dimensional analysis.

CIVIL TECHNOLOGY 252. (2) WATER SUPPLY AND SEWERAGE

Prerequisite: *Civil Technology* 251.

The principles of water and sewage treatment as well as a study of water and sewage plant operation are covered in this course.

CIVIL TECHNOLOGY 271. (3) CONSTRUCTION ESTIMATING

Prerequisite: *Civil Technology* 221.

A survey of material and labor costs is made in this course. The student prepares material and labor cost estimates from drawings and specifications.

CIVIL TECHNOLOGY 281. (2) STRUCTURAL DRAWING

Prerequisite: *Mechanical Engineering* 102.

Standard structural details are studied in this course. The student is instructed in the preparation of structural drawings with particular emphasis on the determination of sizes of parts, design of members, and the preparation of working drawings.

Four laboratory hours per week.

CIVIL TECHNOLOGY 282. (2) STRUCTURAL DRAWING
Prerequisite: Civil Technology 281.

Topics covered include structural steel plans, shop detail drawings of beams and beam connections, concrete floor systems, and working drawings of concrete members.

Four laboratory hours per week.

ECONOMICS

ECONOMICS 101. (3) BUSINESS ECONOMICS

This course covers the economics of distribution, an examination of marketing channels, sources and use of business publications and other materials as applied to the solution of distribution problems.

ECONOMICS 201-202. (3-3) GENERAL ECONOMICS

The organization and underlying principles of modern economic life, with emphasis upon the operation of the private enterprise system. The production, exchange, distribution, and consumption of wealth, the allocation of resources, and auxiliary economic problems.

EDUCATION

EDUCATION 101. (3) INTRODUCTION TO THE STUDY OF EDUCATION

This is an orientation course designed to help develop an understanding of the philosophy and procedures of public education.

ELECTRICAL ENGINEERING

See Engineering.

ELECTRICAL TECHNOLOGY

ELECTRICAL TECHNOLOGY 111. (2) DIRECT CURRENT CIRCUITS
Co-requisite: Mathematics 101 *or Mathematics* 106.

This course is an introduction to the basic terminology, concepts, and principles of direct current electricity. Fundamental relationships between voltage, current, power, and energy in direct current electrical circuits are established with emphasis on problem application. This course also investigates the principles of electrical and magnetic fields, capacitors, coils, and energies.

ELECTRICAL TECHNOLOGY 112. (3) ALTERNATING CURRENT CIRCUITS

Prerequisite: Electrical Technology 111.

The fundamentals of alternating current theory and practices as applied to single-phase and polyphase circuits are studied. Some of the topics covered are admittance, conductance, and susceptance; anti-resonance circuits; coupled-circuit theory, mutual inductance, impedance transformation, reflected impedance, and transformer theory.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 121. (3) BASIC ELECTRONICS

Co-requisite: Electrical Technology 112.

The student is given a basic course in the control of free electrons in elementary electronic circuits. Characteristics of tubes, semi-conductors, and circuit analysis of rectifier circuits are studied.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 211. (3) ELECTRICAL MACHINES

Prerequisite: *Electrical Technology* 112 *and Physics* 212.

The construction, characteristics, operation, control, and industrial applications of transformers, motors, generators, converters, synchros, servomotors, and amplidynes together with their starting, switching, and protective devices are studied in this course.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 221. (3) ADVANCED ELECTRONICS

Prerequisite: *Electrical Technology* 121.

Co-requisite: *Mathematics* 214.

In this course a study is made of the analysis and design of physical systems, which include practical rectifiers, diodes, basic vacuum-triode amplifiers, practical triode amplifiers, practical transistor amplifiers, and multigrid vacuum tubes. The course also includes a systematic analysis of linear electronics circuits, piecewise-linear circuit analysis, network theorems, frequency dependence of single-stage amplifiers, frequency dependence of cascaded amplifiers, nonsinusoidal signals, transient response, and feedback amplifiers.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 222. (3) INDUSTRIAL ELECTRONICS

Prerequisite: *Electrical Technology* 211.

The course is a study of basic electronic circuits and application of these circuits to such devices as electronic timers, voltage regulators, electrostatic air cleaners, motor and generator control systems, web and register control systems, photoelectric systems, and single-phase and polyphase rectifiers.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 223. (2) MICROWAVE TECHNOLOGY
Co-requisite: *Electrical Technology* 221.

Practical applications of high-frequency transmission-line concepts are presented. Among other subjects considered are impedance matching, wave propagation, standing waves, basic antenna theory, high-frequency measuring techniques, microwave techniques, theory and practice of pulse circuits, radar transmitting and receiving systems, and synchronization.

ELECTRICAL TECHNOLOGY 231. (3) RADIO TECHNOLOGY
Prerequisite: *Electrical Technology* 121.
Co-requisite: *Mathematics* 214.

This course covers voltage amplifications as applied to audio-frequency and radio-frequency circuits. Covered also are analysis of amplifier circuits and coupling methods, radio-frequency tuning circuits, regenerative and degenerative circuits, decoupling networks, basic oscillator circuits, and a comprehensive study of the construction, tuning, and alignment of radio receivers through superheterodyne.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 232. (3) RADIO TECHNOLOGY
Prerequisite: *Electrical Technology* 231.

An advanced study of radio-communication circuits is made in this course. Characteristics of amplitude-modulated and frequency-modulated transmitters and receivers, power amplifiers, phase inverters, and modulator circuits as well as broadcast studio techniques and control room equipment are covered.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 241. (2) ILLUMINATION
Prerequisite: *Physics* 212.

A study of illumination principles and practices is made in this course. Modern illumination principles, calculations, and equipment are coordinated in design problems of complete fluorescent and incandescent lighting installations.

ELECTRICAL TECHNOLOGY 251. (3) TELEVISION TECHNOLOGY
Co-requisite: *Electrical Technology* 232.

The course includes principles of frequency-modulation, methods of modulation and demodulation, FM transmitter and receiver circuits, and FCC standards for television transmission. A detailed study of television transmitting and receiving equipment, including color television components, is made.

Two lecture and two laboratory hours per week.

ELECTRICAL TECHNOLOGY 261. (2) ELECTRICAL CODES
Prerequisite: *Physics* 212.

Wiring and wiring methods used in buildings are studied.

The course material includes wire sizes, types of insulation, electrical fittings, service entrances, distribution centers, branch circuit layout, switching arrangements, motor control circuits, and a thorough examination of the recommendations of the National Electrical Code and the National Electrical Manufacturers Association with illustrative applications of wiring procedures.

ELECTRICAL TECHNOLOGY 271. (2) ELECTRICAL DISTRIBUTION
Prerequisite: *Electrical Technology* 211.

The following topics are studied in this course: the fundamental principles of electric power distribution and transmission including the calculation of short and medium length polyphase lines; the study of types and classes of loads, distribution networks, transformer connections and operation, voltage control, and protecting equipment; and the study of the mechanical principles involved in network design and the economic principle of distribution.

ELECTRICAL TECHNOLOGY 281. (1) ELECTRICAL DRAWING
Prerequisite: *Mechanical Engineering* 102.

The purpose of this course is to give to the student a comprehensive presentation of electrical and electronic drawing principles. Topics studied include pictorial drawing, electrical and electronic symbols, wiring diagrams, and block diagrams.

Two laboratory hours per week.

ELECTRICAL TECHNOLOGY 282. (1) ELECTRICAL DRAWING
Prerequisite: *Electrical Technology* 281.

Attention is given to electron-tube and transistor symbols, electronic schematic diagrams, industrial electronic diagrams, electric power drawing, and electrical drawing for architectural plans.

Two laboratory hours per week.

ENGINEERING

CIVIL ENGINEERING 201-202. (3-3) SURVEYING I, II
Prerequisite: *Mathematics* 101.

Elements of plane surveying including taping, transit, level, stadia, plane table, topographic surveying and mapping, care and adjustment of instruments; construction surveys; earthwork computations; route surveys and design; simple, compound, parabolic, and spiral curves; chainage equations.

One lecture, two problem, and three laboratory hours a week.

ELECTRICAL ENGINEERING 201-202. (4-4) ELEMENTARY FIELDS AND CIRCUITS

Co-requisites: Mathematics 201, *Physics* 201.
Required of sophomores in electrical engineering.

Fundamental laws of electric circuits, magnetic circuits, electric fields, and magnetic fields. Introduction to steady-state alternating-current circuit theory.

Two lecture, two problem, and three laboratory hours a week.

ENGINEERING MECHANICS 211. (3) MECHANICS I (STATICS)

Prerequisite: *Physics* 201, *Mathematics* 201.

Study of the analytical and graphical solution for the resultant and equilibrium of concurrent, parallel, and non-concurrent non-parallel force systems under coplanar or non-coplanar conditions. The application of statics to pin connected members, trusses, and cables; friction; centroids; and moments of inertia. Shear and bending moment equations and diagrams.

MECHANICAL ENGINEERING 101-102. (2-2) ENGINEERING GRAPHICS

The major areas that will be covered in this work include: instrument practice, geometric construction, orthographic projection, sections, auxiliary views, pictorial drawing, details and assemblies, charts, graphs, freehand sketching, dimensioning, true length, true slope and line as a point, edge view and true size of a plane, shortest distances between lines, a line piercing a plane, intersection of planes, dihedral angle, shortest distances to a plane, angle between a line and a plane, revolution, development of surfaces, intersection of solids, mining problems, aeronautical problems, miscellaneous problems.

ENGLISH

ENGLISH 80. (0) READING IMPROVEMENT LABORATORY

A course enabling the individual to obtain a firm grasp of the skills of more efficient reading. Lecture-demonstrations are combined with actual laboratory work in which each student participates in tachistoscopic training, electrically accelerated reading and other modern techniques.

ENGLISH 90. (0) ENGLISH LABORATORY

A comprehensive review of grammar with emphasis on the fundamental errors of expression. Open to all students. Required of all students whose English Placement Test scores and/or first paper in English 101 indicates a need. Students may be assigned to English 90 at the discretion of their instructors in English 101. To be taken concurrently with or prior to English 101. A student who is assigned to English 90 must receive a passing grade in it to be given credit in English 101.

Three hours a week.

ENGLISH 101-102. (3-3) COMMUNICATIONS SKILLS

The basic skills in reading and writing English prose. Extensive practice in writing various kinds of papers will be required; reading skills are to be taught by outline, precis, and class discussion of large numbers of essays. This work will be supplemented by study in logic, rhetoric, and semantics.

Required of all freshmen.

ENGLISH 109. (3) PUBLIC SPEAKING

A study of the basic fundamentals of public speaking and delivery of original speeches.

ENGLISH 110. (2) TECHNICAL WRITING

A study of the fundamentals of technical writing style and mechanics with practice in preparing reports of the various types most likely to be used on the job by technicians.

ENGLISH 121. (3) BUSINESS ENGLISH

A study of the fundamentals of grammar with specific application to business documents and other business papers, the editing of business materials, proofreading, and corrections.

ENGLISH 201-202. (3-3) ENGLISH LITERATURE

Prerequisite: *English* 101-102.

An intensive study of the masterpieces of English literature in chronological sequence to the present.

FRENCH

FRENCH 101-102. (3-3) ELEMENTARY FRENCH

Study of the fundamentals of grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory.

Required additional individual language laboratory drill: 1 hour.

FRENCH 201-202. (3-3) INTERMEDIATE FRENCH

Prerequisite: *French* 101-102 *or* 2 *units of high school French.*

France and the French civilization. Graded readings in French literature. Review of the essentials of grammar. Collateral readings. Conducted in French as much as possible.

Required individual language laboratory drill: 1 hour.

FRENCH 203. (3) PRACTICAL FRENCH COMPOSITION AND CONVERSATION

Prerequisite: *French* 101-102 *or the equivalent.*

Required individual language laboratory drill: 1 hour.

FRENCH 221-222. (3-3) CLASSICAL AND CONTEMPORARY FRENCH LITERATURE

Prerequisite: *French* 201 *and* 202 *or the equivalent.*

Conducted in French as much as possible. Collateral readings. Required individual language laboratory drill: 1 hour.

GEOGRAPHY

GEOGRAPHY 138. (4) GENERAL GEOGRAPHY

This course is organized on a regional basis and deals with the various peoples of the earth and how they and their activities are influenced by topography, climate, and natural resources.

Three lecture and two laboratory hours a week.

GEOLOGY

GEOLOGY 111. (4) ELEMENTS OF GEOLOGY

Combines both historical and physical geology in one course and is thus intended for general information and not for students wishing to major in geology or allied sciences.

Three lecture and two laboratory hours a week.

GEOLOGY 241. (4) PHYSICAL GEOLOGY

The nature and occurrence of rocks and minerals, together with crustal features of the earth's surface. This course goes into more detail and places greater emphasis on earth phenomena than does Geology 111.

Three lecture and two laboratory hours a week with two or more one-day field trips, to be arranged.

GEOLOGY 242. (4) HISTORICAL GEOLOGY

Emphasis in this course is on the stratigraphic and fossil history of the earth as found in the earth's crust together with the necessary information on both plant and animal kingdoms to trace the evolution of life down through the ages.

Three lecture and two laboratory hours a week with two or more one-day field trips, to be arranged.

GERMAN

GERMAN 101-102. (3-3) ELEMENTARY GERMAN

Study of the fundamentals of grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory.

Required additional individual language laboratory drill: 1 hour.

GERMAN 201-202. (3-3) INTERMEDIATE GERMAN

Prerequisite: *German* 101-102 *or* 2 *units in high school German.*

Germany and the German civilization. Graded readings in German literature.

Review of the essentials of grammar. Collateral readings. Conducted in German as much as possible.

Required individual language laboratory drill: 1 hour.

GERMAN 221-222. (3-3) GERMAN LITERATURE

Prerequisite: *German* 201-202 *or the equivalent.*

Conducted in German as much as possible. Collateral readings.

Required individual language laboratory drill: 1 hour.

HISTORY

HISTORY 101. (3) DEVELOPMENT OF CIVILIZATION

A survey of the history of man from the earliest times to the eighteenth century.

HISTORY 102. (3) DEVELOPMENT OF CIVILIZATION

A study of world civilization since the beginning of the eighteenth century to the present.

HISTORY 201. (3) AMERICAN HISTORY

History of the United States before 1865.

HISTORY 202. (3) AMERICAN HISTORY

History of the United States from 1865 to the present.

HISTORY 231. (3) ENGLISH HISTORY

The history of England to 1688.

HISTORY 232. (3) ENGLISH HISTORY

England since 1688. The evolution of British society and the development of responsible government.

JOURNALISM

JOURNALISM 101-102. (3-3) NEWS GATHERING AND REPORTING

Prerequisite: English 101-102.

A general outline of the principles of newspaper practice, followed by daily work in news gathering, reporting, and writing of news stories. Regular work on the college newspaper is required. Practice work will be arranged with the Charlotte daily newspapers.

MATHEMATICS

MATHEMATICS B. (0) PLANE AND SOLID GEOMETRY

Three hours a week.

MATHEMATICS R. (0) INTERMEDIATE ALGEBRA

Three hours a week.

MATHEMATICS 8. (3) PLANE TRIGONOMETRY

Identities, reduction and addition formulas, graphs, trigonometric equations, inverse trigonometric functions, solution of right and oblique triangles.

(To be offered for the last time in the fall semester, 1961.)

MATHEMATICS 101. (5) FRESHMAN ENGINEERING MATHEMATICS I

Prerequisite or Co-requisite: Mathematics B or its high school equivalent.

This is a combined course in algebra and trigonometry. Topics include a brief introduction to modern algebra and set theory; determinants and matrices; solution of algebraic and trigonometric equations, systems of equations, and inequalities; mathematical induction, the binomial theorem and progressions; trigonometric and circular functions; identities and multiple angle relations; solution of triangles; and elementary theory of complex variables.

MATHEMATICS 102. (4) FRESHMAN ENGINEERING MATHEMATICS II

Prerequisite: Mathematics 101.

Analytic geometry in the plane and an introduction to the differential calculus. Topics include the properties of lines and curves in the plane; analytic proofs of geometric propositions; conic sections; translation and rotation of axes, functions, limits, and continuity; differentiation of algebraic functions with applications; and differentials with applications.

MATHEMATICS 106-107. (3-3) ALGEBRA AND TRIGONOMETRY

Topics include the real and complex number systems; functions and inverse functions; algebraic, exponential, logarithmic, and trigonometric functions and equations; systems of equations; permutations, combinations, the binomial theorem and probability; and sequences and series.

MATHEMATICS 111. (3) BUSINESS MATHEMATICS

Applications of mathematics to typical accounting, financial, and other business problems, including bank discounts, trade discounts, weighted averages, merchandise markup and turnover, application of compound interest principles to annuity, sinking fund, and amortization problems.

MATHEMATICS 201-202. (4-4) SOPHOMORE ENGINEERING MATHEMATICS I, II

Prerequisite: *Mathematics* 102 (*with a minimum grade of C*).

The last two-thirds of a unified course in Analytic Geometry and Calculus. Topics include indefinite and definite integrals of algebraic functions and their applications; differentiation and integration of transcendental functions; polar, cylindrical, and spherical coordinates; an introduction to vector analysis; parametric equations, curvilinear motion and curvature; special methods of integration; integration of applied problems in various coordinate systems; approximate integration, indeterminant forms, and improper integrals; infinite series and expansion of functions in series; partial differentiation and multiple integrals.

MATHEMATICS 214. (4) ELECTRONIC MATHEMATICS

Prerequisite: *Mathematics* 102.

A survey course which includes integral calculus, electronic applications of calculus, the algebra of circuit analysis, elementary differential equations, and an introduction to Boolean algebra; and which furnishes the student with practical problems with electrical applications.

MECHANICAL TECHNOLOGY

MECHANICAL TECHNOLOGY 111. (1) METALWORK

This is an introduction to general metalwork, the use and care of hand tools, and maintenance of tools and equipment. Practical projects will be chosen for each phase, using the greatest number and variety of operations. The student will also study the fundamental machine operations of drilling, reaming, turning between centers, chuck work, thread cutting, layout, and finishing. Special attention is given to cutting speeds, tool and drill grinding, and machine maintenance.

Three laboratory hours per week.

MECHANICAL TECHNOLOGY 112. (1) METALWORK

Prerequisite: *Mechanical Technology* 111.

In this course the student will complete a project in advanced machine work. Shop problems in sheet metal layout and methods of fabrication of sheet metal will be studied.

Three laboratory hours per week.

MECHANICAL TECHNOLOGY 211. (1) WOODWORK

The course is an introduction to woodwork, which is designed to give students a background of basic woodworking processes. Topics include the use of hand and machine tools, sharpening and the upkeep of tools, basic woodworking principles of design and construction, and elementary patternmaking including a study of the various allowances, finish, and color code.

Three laboratory hours per week.

MECHANICAL TECHNOLOGY 212. (1) WELDING

Prerequisite: *Mechanical Technology* 112.

The fundamentals of both arc and acetylene welding are considered. The most economical methods in regard to welding time, machinability, and ductility as well as safe practices in welding, types of rods, and welding symbols are covered.

Three laboratory hours per week.

MECHANICAL TECHNOLOGY 221. (2) MANUFACTURING PROCESSES

The technical fundamentals of the important manufacturing processes are covered in this course. Engineering materials are discussed in connection with the modern machine tools necessary for the processing of these materials.

MECHANICAL TECHNOLOGY 231. (2) METALLURGY

Prerequisite: *Mechanical Technology* 112.

Subject matter includes the nature of metals and alloys, mechanical properties of metals, annealing and normalizing, hardening by quenching, tempering, hardenability of steels, the surface hardening of steel, cast irons and their heat treatment, heat treatment of non-ferrous metals and alloys, and equipment and methods used in heat treating practice.

MECHANICAL TECHNOLOGY 241. (4) MECHANICS OF MATERIALS

Prerequisite: *Mathematics* 107 *and Physics* 211.

This course covers the various physical properties of the common materials of industry. Structures and machines in equilibrium are considered, and internal stresses of pure compression or tension are evaluated. A study of coplanar forces and force systems, truss solutions, force systems in space, friction, centroids, riveted and welded joints, torsional stresses in beams, beam deflections, and columns is made.

MECHANICAL TECHNOLOGY 251. (4) MOTION AND TIME STUDY

The principles of motion economy, methods of motion study and micro-motion study, use of standard time data, and formula construction are studied. The course covers the fundamentals of stop watch time study, effort rating, uses of time study, and the use of synthetic systems of time study.

MECHANICAL TECHNOLOGY 252. (3) ESTIMATING FOR MANUFACTURE

Prerequisite: Mechanical Technology 112 *and Mechanical Technology* 251.

This course presents a method of analyzing various machining operations, not only those involved in setting up a job but also those necessary in tearing it down, giving the specific time value established for each element. Instructions are provided for the use of several methods of estimating operations on each type of machine in use today.

MECHANICAL TECHNOLOGY 261. (2) INDUSTRIAL MANAGEMENT

The student is given an overall view of the typical industrial organization, with particular emphasis on interrelationship of functions and principles of management. Efficient coordination and control through the application of the latest developments in industrial technology are stressed.

MECHANICAL TECHNOLOGY 271. (2) INSPECTION METHODS

Prerequisite: Mechanical Technology 112.

A study of the use and care of precision inspection instruments and various methods of inspection is made in this course. Types and methods of inspection are compared and discussed from samples chosen from industry.

MECHANICAL TECHNOLOGY 281. (2) TOOL DRAWING

Prerequisite: Mechanical Engineering 102 *and Mechanical Technology* 112.

This course is designed to give the student a thorough knowledge of the principles, practices, tools, and commercial standards of jig and fixture design through a study of the applications of the principles of strength and rigidity necessary in machine tool elements.

Four laboratory hours per week.

Mechanical Technology 282. (2) Machine Drawing
Prerequisite: Mechanical Engineering 102 *and Mechanical Technology* 241.

The student is given practical problems in the drawing of gears, cams, linkages, and other machine parts, as well as assembly drawing of small machines and exploded view drawings.

Four laboratory hours per week.

MUSIC

Music 101-102. (1-1) Chorus I
Music 201-202. (1-1) Chorus II

The Charlotte College Chorus provides opportunity for students who enjoy singing to gain basic training in the principles of voice production and choral participation. Repertoire includes both sacred and secular music, and public appearances are made each year through assembly programs, radio and television presentations, and at commencement exercises.

Rehearsals are held Friday evenings from 8:15 to 9:45.

Music 103-104. (1-1) Individual Voice Study

Basic techniques in the study of singing; classification of the voice, breathing, posture, freedom and vitalization of tone, elements of diction, vocalization, simple songs in English and Italian.

One hour of practice daily.

Music 203-204. (1-1) Individual Voice Study

More advanced techniques. Standard classics in English and Italian with additional study of songs in French or German or Spanish. Memorization of basic repertoire with application of sound principles of interpretation.

One hour of practice daily.

PHILOSOPHY

Philosophy 101. (3) A Systematic Introduction

A study of the major issues in philosophy. There will be discussion of such typical problems as moral freedom, the mind-body relationship, and the implications of the sciences. The historic schools of materialism, idealism, realism, and pragmatism will be described.

Philosophy 102. (3) The Development of Philosophy

A historical approach to philosophy through a study of selections from the works of great western thinkers.

PHYSICS

Physics 201-202. (5-5) Physics for Engineers
Co-requisite: *Mathematics* 201.

A study of classical topics of general physics, emphasizing modern concepts especially useful in the various fields of engineering. Problem solving and a rigorous mathematical appreciation of all topics are emphasized.

Four lecture and two laboratory hours a week.

Physics 211-212. (4-4) General Physics
Prerequisite: *Mathematics* 106 *or Mathematics* 101.

A study of the fundamental principles of mechanics, heat, sound, electricity, light, and a survey of modern physics. Accuracy in observation and measurements is especially emphasized in the laboratory.

Three lecture and two laboratory hours a week.

POLITICAL SCIENCE

Political Science 201. (3) Introduction to Government in the U.S.

A basic course in American government giving attention to the origin, organization, and nature of our federal system with particular emphasis on the national government in action.

Political Science 202. (3) Processes and Problems of Government in the United States
Prerequisite: *Political Science* 201.

This course deals chiefly with the efforts made by government in the United States to solve public problems. It treats particularly government policies toward agriculture, labor, social welfare, and international relations.

Political Science 211. (3) Comparative Government
Prerequisite: *Political Science* 201.

A comparative study of foreign governments, especially in Great Britain, France, the United States, and Soviet Russia.

Political Science 212. (3) World Politics
Prerequisite: *Political Science* 201.

The prerequisite may be waived by the instructor. In this course diplomatic relations, international law, power politics, and efforts to achieve world organization will be studied.

PSYCHOLOGY

Psychology 101. (3) General Psychology
A study of the general characteristics and development of human behavior, emphasizing the problems of motivation, emotion, learning and thinking.

Psychology 102. (3) Child Psychology
This course includes a study of the instincts, emotions, and general tendencies of children up to the age of twelve or fourteen. Remedial measures are suggested for dealing with early tendencies that may lead to serious difficulty. Special study of at least one child will be made by every student.

Psychology 103. (3) Social Psychology
A study is made of the crowd, suggestion, the mob mind, conventionality, and custom imitation. The psychology involved in compromise, discussion, conflict, and war is especially investigated.

Psychology 201. (2) Applied Business Psychology
The general purpose of this course is to develop an understanding of people. Emphasis will be placed on the psychological principles which govern man's adjustment on his job and which promote successful merchandising through advertising and through selling. Studies of the motives which urge men to work and to purchase goods and services will be stressed. The practical aims will be to show how an employee may be aided in becoming adjusted to his job and how to persuade customers to purchase goods and services and be satisfied.

RELIGION

Religion 101. (3) Survey of the Old Testament
An introduction to the literary and historic values of Old Testament literature. English translations will be used. The emphasis will be upon the background, purpose and content of the writings.

Religion 102. (3) Survey of the New Testament
A study of New Testament literature in its historic and contemporary background with emphasis upon the content and purpose of the text. English translations will be used.

SOCIOLOGY

SOCIOLOGY 101. (3) INTRODUCTION TO SOCIOLOGY

This course will include a survey of the field of sociology with special emphasis on the fundamental functions of society, the nature of culture, human nature, collective behavior, community life, and social control.

SOCIOLOGY 102. (3) SOCIAL PROBLEMS

The problems of population, the family, distribution of wealth and income, labor and management relationships, race relations, health, crime, juvenile delinquency, insanity and mental deficiency, social control, social planning, and democracy are investigated and studied.

SOCIOLOGY 103. (3) MARRIAGE AND FAMILY

This course considers the family as the basic unit of society. The following aspects are emphasized: comparative family structure, the influence of the family on personality development, trends with reference to marriage and divorce, family disorganization and the changing function of the home, the impact of war on the family, courtship and the factors determining the choice of a marriage partner, and the principles of marriage counseling. It is intended that this course shall serve the practical purpose of preparation for successful marriage and homemaking.

SOCIOLOGY 104. (3) HUMAN RELATIONS IN INDUSTRY

A course of training in the development of personality, ability to analyze problems involving human relations, and the development of good foundations for personnel relations. Actual cases of human relations problems in industry are studied with a view toward developing the technique of working with superiors, associates, and subordinates.

SPANISH

SPANISH 101-102. (3-3) ELEMENTARY SPANISH

A study of the fundamentals of Spanish grammar with particular stress on correct pronunciation and self-expression through practice in the language laboratory.

Required additional individual language laboratory drill: 1 hour.

SPANISH 201-202. (3-3) INTERMEDIATE SPANISH

Prerequisite: Spanish 101-102 *or its equivalent.*

A review of the essentials of Spanish grammar; a study of

Spain and its civilization with graded readings in Spanish literature. Collateral readings.

Required language laboratory drill: 1 hour.

SPANISH 203. (3) SPANISH COMPOSITION AND CONVERSATION

Prerequisite: Spanish 101-102 *or its equivalent.*

Intermediate practical Spanish composition and conversation.

Required language laboratory drill: 1 hour.

SPANISH 221-222. (3-3) SPANISH LITERATURE

Prerequisite: Spanish 201-202.

Readings in classical and contemporary Spanish and Spanish-American literature. Book reports on collateral readings. Additional language laboratory drill.

ZOOLOGY

ZOOLOGY 111. (4) INTRODUCTORY ANIMAL BIOLOGY

Principles of animal biology, with a survey of the phyla, but special emphasis on selected invertebrate and vertebrate types. The relationship of man to the animal kingdom and the basic fundamentals of human morphology, genetics, and physiology are also stressed.

Three lecture and two laboratory hours a week, with one or more one-day field trips, by arrangement.

ZOOLOGY 141. (4) ANIMAL BIOLOGY

Prerequisite: Zoology 111.

This course emphasizes the vertebrates, both from the comparative standpoint and the various phases of classification. Anatomy, histology, life history, and embryology are stressed.

Three lecture and two laboratory hours a week with two or more one-day field trips, by arrangement.

ADULT EDUCATION

The adult education program of Charlotte College endeavors to provide for the residents of Charlotte, both young and old, courses desired for increased vocational competency and cultural development. The present program offers a variety of courses, and others will be added as the need for them arises. These classes have no educational prerequisites, and most of them give no college credit either for graduation or transfer.

MANAGEMENT PROBLEMS IN THE OPERATION OF A BUSINESS

The purpose of this course is to help the owners and managers of businesses to analyze and attempt to find logical solutions to some of their problems.

RADIO AND TELEVISION ANNOUNCING

A course designed to introduce the student to the fundamentals of radio and television speech, with various techniques of delivery. Recordings are made of the student's work for critical analysis. No prerequisite. 3 hours per week.

READING FOR BUSINESS AND PROFESSIONAL MEN AND WOMEN

A nine weeks course enabling the individual to obtain a firm grasp of the skills of more efficient reading. Lecture-demonstrations are combined with actual laboratory work in which each participates in tachistoscopic training, electrically accelerated reading and other modern techniques for building greater speed and comprehension in reading.

REVIEW CLASS FOR NORTH CAROLINA ENGINEERING REGISTRATION EXAMINATION

The forty-two hours of work in this course will include a review of the fundamentals of engineering.

THE NORTH CAROLINA STATE COLLEGE PROGRAM

Three years ago, the School of Engineering of North Carolina State College established a Charlotte Department, using the facilities of Charlotte College. This program is a reality because of the excellent cooperative relationship existing between the two colleges.

The main purpose of the North Carolina State program is to offer Junior, Senior, and Graduate-Level Engineering courses that can advance the student toward a degree. Courses carry exactly the same credit as those offered at Raleigh. All courses are offered in the evening on a semester basis.

Most of the courses offered are common to several Engineering Curricula, including Mechanical, Electrical, and Civil. Sixty students were enrolled in five courses in the fall semester, 1960.

Herbert A. Lynch is head of the Charlotte Department and maintains an office at Charlotte College. Instructors in the program, mostly drawn from the large number of engineers employed in local industry, include F. R. De Jarnette (Douglas Aircraft), C. S. Goodrum (Charlotte College), R. N. Hooker (Douglas Aircraft), H. A. Lynch (North Carolina State College), C. R. Mullins (F. N. Thompson Co.), J. M. Potts (Douglas Aircraft).

ROSTER OF STUDENTS

ASSOCIATE IN ARTS DEGREES CONFERRED JUNE 4, 1961

Julian Emmett Allen
Keith Morgan Arrowood
Robert Boyd Barbee
Thomas Chaunce Barnes
Thomas Vernon Beaty
Esther Lovelace Blythe
Albert Medlin Bolick
Robert Thomas Bradburn
Gerald Lee Brown
Robert Charles Brown
Donald Ray Buff

Hugh Roderick Campbell
Gary Eldon Carlton
Richard Wilson Carriker
Donald Lee Carter
Russell Ernest Chappell
Joel Ernest Chastain
Dean Franklin Chesser
Francis Wiley Collins
Helen Kay Combs
Kenneth Franklin Corbett
James Fraser Cornell, Jr.
Emily Marie Crabtree
James Lewis Crenshaw
William Spencer Crowell

Benjamin Franklin Davis
Charles Steven Deal
Esther Rose Erwin
Bernice Hubert Fitzgerald, Jr.
Dwight Rodney Frye
Edward Ashley Funderburk
Charles Silas Funk

Douglas Gordon Galvin
Russell Clifford Gilbert
Violet Madlyn Gilbert
James Thomas Gilmer
Jerry Clyde Gunter
Wyatt Price Hargett, Jr.
Frank Ervin Harkey, Jr.
Linda Leete Harris
Robert Lane Hartis
Willie Victor Harwell, Jr.
Conrad Claude Helms, Jr.
Clyde Davis Hice
William Wanley Hicks, Jr.
Lucy Virginia Hill

Larry Allan Hoover
James Bonner Hosse
Walter Edward Hoyle
Caryl Blanche Hunter

Gary Eugene Idol
Larry Eugene Irvin, Sr.
Robert Allen Karlson
Joseph McCollum Kiker
James Wellington Latane, III.
Donald Franklin Laye
William Harold Little, Jr.
Donald Wilson Livingston

Eunice McLeod
Peggy Carriker McRorie
Charles Edwin Marcotte
Harold Gilbert Millsaps
Kenneth Wayne Mullis
Napoleon Jerome Owens, Jr.
Nancy Carter Parlier
Dorce Howard Payne, Jr.
Maxwell Eugene Petty
William Davis Poole
William Dickson Povey

William Kress Query, Jr.
Laurin Elbert Quillen
Howard William Robeson
Walter Lee Roe, Jr.
Robert Parks Sadler, Jr.
Lillian Pearl Seaman
Elizabeth Ann Settlemyre
James Joseph Settlemyre
James Harvey Sexton
Paul Alexander Shinn
Hubert Max Steinek, Jr.

Howard Wayne Therrell
Jere Manley Thomas, Jr.
Robert LeGrande Thompson
David Muir Truax
David Cyrus Trull, Jr.
Harrison Bradford Watson
Gerald Allen Williams
Jerry Charles Wilson
Joseph Fred Wilson
Albert Douglas Winchester

SOPHOMORES

Adams, Charles Stuart
Allen, Julian Emmett
Arrowood, Keith Morgan

Balas, John Christopher
Barbee, Robert Boyd
Barnes, Thomas Chaunce
Barr, Robert Francis
Bass, L. Bernard
Beagle, Robert Frederick
Beamguard, Walter Larry
Beaty, Thomas Vernon
Bell, Gary Lynn
Bell, John Henry, Jr.
Bishop, Effie Pool
Bivens, Douglas Donald, Jr.
Black, John Lester
Blythe, Esther Lovelace
Bolick, Albert Medlin
Bostic, Jimmie Drew
Bradburn, Robert T.
Bradshaw, Nelson James, Jr.
Bridges, Robert L.
Broadway, Fred S., Jr.
Brown, Gerald Lee
Brown, James Edward
Brown, Robert Charles
Buff, Donald Ray
Burns, Ruby H.
Burrus, Carl Plott
Burwell, Robert Carter

Caldwell, Milford Douglas
Campbell, Hugh Roderick
Carmack, Kenneth Lemar
Carriker, Richard Wilson
Carter, Donald Lee
Chappell, Russell Ernest
Chastain, Joel E.
Chesser, Dean F.
Christenbury, Dwight Olin, Jr.
Collins, Daniel Curtis
Collins, Francis Wiley
Collins, Patsie Ruth
Colvard, Eulas Gary
Combs, Helen Kay
Conner, Charles Wayne
Connolly, Albert Raymond
Corbett, Kenneth Franklin
Cornell, James Frazer, Jr.
Crabtree, Emily Marie
Craig, Tim Talmadge, Jr.
Crates, James Michael
Crenshaw, James Lewis
Crisp, John Dorsey
Crowell, William Spencer
Currie, Avery M.

Daly, Charles Francis
Davis, Benjamin Franklin
Dawkins, William Ellis
Deal, Charles Steven
Dellinger, Joe B.
Drum, Dewey Lee
Drye, Howard Gladston
DuBose, John Henry
Dunlap, Sam H., III

Eason, William Croker
Erwin, Esther Rose

Faulkenberry, Johnny Albert
Ferguson, Alfred William
Finger, Mike Rockett
Fitzgerald, Bernice Hubert, Jr..
Franklin, Walter McKinney
Frazier, Steve Eugene
Frye, Dwight Rodney
Funderburk, Edward Ashley
Funk, Charles Silas

Galvin, Douglas Gordon
Gamble, John Harley, Jr.
Gilbert, Russell Clifford
Gilbert, Violet Madlyn
Gilmer, James Thomas
Glenn, Walter W.
Grass, M. W., Jr.
Greene, Marshall Steele
Gunter, Jerry Clyde

Haas, Steve Wiley
Hammons, Charles William
Hargett, Wyatt Price, Jr.
Harkey, Frank Ervin
Harris, Laura E.
Harris, Linda Leete
Hartis, Jerry Edmond
Hartis, Robert Lane
Harvey, Reggie C.
Harwell, Willie Victor, Jr.
Hawkins, Harry McAden
Helms, Conrad Claude, Jr.
Helms, Eric T.
Helms, John Franklin
Helms, Lloyd Warner
Helms, Thomas Floyd, Jr.
Helms, William Phil
Hensel, Robert Allen
Hice, Clyde Davis
Hicks, N. Max
Hicks, William Wanley, Jr.
Hill, Hoyle D.
Hill, Lucy Virginia
Hinkel, Emory Ellsworth, Jr.
Holder, R. Ernest
Holland, Charles Edward
Honeycutt, Billie Wayne
Hoover, Larry Allan
Horton, Fay Melvin
Hosse, James Bonner
Huckabee, James W.

SOPHOMORES

Huddleston, Robert R.
Huffstetler, Charles Leslie
Hunter, Caryl Blanche
Hutchinson, James Alfred

Idol, Gary Eugene
Ingold, Sara Dry
Irvin, Larry Eugene, Sr.

Jackson, Donald Bryant
Jamieson, Henry M.
Johnston, Reid Selby

Karlson, Robert Allen
Kellams, Harold Donald
Kennedy, Edward M., III
Kirby, Dicky Harold
Kretschmer, Frank A.

Latane, Jimmy Wellington
Laye, Donald F.
Linker, Walter Stephen
Little, Robert Eugene
Little, William Harold, Jr.
Livingston, Donald Wilson
Lobdell, Anne Nugent

McLean, Lathan Gilmer
McLeod, Eunice
McManus, John C.
McRorie, Peggy C.
Marcotte, Charles Edwin
Melton, Thomas Morrison
Merritt, Jerry
Messina, Jack Peter
Millsaps, Harold Gilbert
Mims, Herman D.
Moore, Sarah Elizabeth
Morris, George Keith
Morris, John Philmore
Morris, William R.
Mullis, Donnie Clifton
Mullis, Kenneth Wayne
Murdoch, Francis Johnstone

Norman, Patricia Ann

O'Connor, Daniel Lee
Ogden, Charles Howard
Ott, Hampton F., Jr.
Owens, Napoleon J., Jr.

Page, Robert C., III
Parnell, James Lee
Payne, Dorce Howard, Jr.
Peeler, Donald Ray
Penegar, Norman O.
Petty, Maxwell Eugene
Phifer, Kenneth Warren

Pierce, John Blaine
Poole, William Davis
Poplin, Jerry Melvin
Potter, James Thomson
Povey, William Dickson

Query, William Kress
Quillen, Laurin Elbert
Richek, Martin D.
Ritter, Larry R.
Rivers, Georgia Mae
Roe, Walter Lee
Rust, Vaughn Joel

Sadler, Robert Parks, Jr.
Scott, Edwin Robinson
Seaman, Lillian P.
Seeger, Daniel T.
Settlemyre, Elizabeth Ann
Settlemyre, James Joseph
Sexton, James Harvey
Shelby, Catherine C.
Shinn, Paul Alexander
Shorter, Shelton Legrand, Jr.
Shuman, Donald Walker, Jr.
Simon, John Flynn
Simpson, Mott Edmond
Sledge, William Collier
Snyder, George Crisman, Jr.
Springs, Manley March
Steinek, Hubert Max, Jr.
Summerville, Robert Harvey
Swart, George J.

Therrell, Howard Wayne
Thomas, Jere M., Jr.
Thompson, Robert L.
Toomey, Dale Patrick
Torrence, Lloyd Clifford
Truax, David Muir
Trull, David C.
Trull, Johnathan L.
Tucker, James Thomas, Jr.

Wallace, Robert Lee
Watson, Harrison Bradford
Whitaker, Dennis Gerard
White, Vivian Nadine
Williams, Gerald Allen
Williams, Lawrence Reed
Wilson, Joseph Fred
Winchester, Albert D.
Withers, Wayne O'Neal
Wyatt, Charles Bogard

Yandle, James Dale
Young, Frederick Richard, II
Young, Edwin T.
Young, Ray Everett

FRESHMEN

Adams, LeRoy Hammond
Adams, Thomas Franklin
Allen, Brenda Dianne
Allen, David Huggins
Allen, George Elbert
Allen, George Milton
Allen, Larry Donald
Allen, Paul Haywood
Allison, Victor Roy, III
Allred, Donald Ray
Ammons, Wallace Lloyd
Andrews, Robert P.
Armstrong, William Rodger
Arthur, John Steen
Arthur, Ronald L.
Asbill, Charles A.
Austin, Fitzhugh Lee
Austin, William G.

Bailey, David Henry
Bailey, William Riley
Balentine, Leonard Wilson
Ball, John Green
Bartlett, Cleatus Barron, Jr.
Baucom, William Roger
Baughn, Jesse David
Beam, Virginia Ann
Beason, Roy Rush, Jr.
Beheler, Mickey Allen
Belk, Wanda Lorraine
Bell, Ashby Virginia
Bennett, Howard Duncan
Bennett, James Franklin
Bennett, Jerry A.
Benson, Robert O.
Benton, Larry Wayne
Berryhill, Joyce Elizabeth
Black, Thomas Edward
Blackwelder, Robert Lee
Blackwell, Shirley Kramer
Blanton, Edward Darvin, Jr.
Bolick, Ward Wesley
Boling, John Walter
Bonti, Gerald Mathew
Bowers, George Harold
Bowles, Robert Turner
Bowlin, Elizabeth Flannagan
Bowman, Helen Clark
Bozardt, Ronnie Wilkinson
Bradshaw, Jackie Roland
Braswell, Richard Lynn
Brewer, Gary Lee
Britt, Carolyn Ruth
Brock, Robert Grant
Brogden, Sara Elizabeth
Brookes, James David
Brooks, Donald Alfred
Brown, Ardrey Stokes, Jr.
Brown, Brenda Anne
Brown, Robert Monroe
Bryant, Frank William, Jr.
Bumgardner, Carl Holden
Burn, Charles Gordon, Jr.
Busbin, David Ross
Butler, Shirley Ann

Caldwell, Mildred Perkins
Caldwell, Robert Edwin
Caldwell, Walter Clinton
Campbell, James Arthur
Canaday, William Clinton
Carmack, James Everette
Carmer, Gordon Robert
Carras, George
Carriker, John Henry
Carson, Melvin Douglas
Carter, Donald Franklin
Carter, Jack Edward
Caskey, Jerry Scott
Cathey, Loyd Wade
Caudle, Carris Manley, Jr.
Choate, John Banks
Clark, Robert Theron
Cline, Glenn Francis
Cloud, Barbara Ann
Cloud, Curtis Lowe
Cobb, William Joseph
Cochran, John Thomas
Collins, Christian Curtis
Connor, Lee David
Conrad, Richard Dale
Cooper, William Heywood
Cornelius, Elizabeth Anne
Cousart, Dale Patrick
Cowles, Phillip Allen
Cox, James Earl
Crawford, James Thomas, Jr.
Creel, Luther M.
Crook, David Lawrence
Crosby, James Russell
Crump, Robert Sylvester, Jr.
Cruse, Larry Orlin
Crutchfield, Karen Gray
Cullingford, Larry Richard
Curry, Jerry Stewart
Curtis, Eugene Clay, Jr.

Daniel, John W.
Davis, James Clifton
Davis, James Robert
Davis, Larry Jerome
Davis, William Javan
DeVine, Frank James
DeYoung, James Murray, Jr.
Deyton, John Herbert
Dixon, Charles Weldon
Douglas, Harold Franklin, Jr.
Duckworth, Samuel John
Duckworth, William Clyde
Dunaway, Henry James

FRESHMEN

Dunlap, James Reginald
Dunn, Bobby Edward
Durham, James Morton

Earnhardt, Samuel James
Echerd, Edwin Ralph, III
Edwards, Jeffrey Lane
Edwards, Johnny Boykin
Efird, Thomas Worth
Ellis, Margaret Ann
Evans, John Warren
Everhardt, Nelson Franklin

Farr, Jack Davis
Ferguson, Hugh Leon
Ferguson, Paul Sanders
Ferguson, Ruby Carlene
Fincannon, Daniel Sloan
Fleming, Aubrey Merrill
Flowers, James Ray, Jr.
Foard, H. Weldon
Fogle, George Douglas
Forbis, William Wayne
Ford, Ann Davis
Forrest, Alfred Claude
Fort, John L.
Foster, Della Marie
Foy, Howard James
Francis, John Boger
Frazier, Frances Sparks
Frieze, Walter Lee, Jr.
Frink, James Monroe
Fullerton, Howard George
Funderburk, James Franklin
Funderburke, Ronald Eugene
Futrell, Frank Wilson, Jr.

Gable, Judy Diane
Gaddy, Peggy Anne
Garrett, Elmer Lee
Gaskins, Stanley Reid
Gay, John Franklin
Gibson, Charlotte Ann
Gilliland, Nancy
Ginter, Jean Thomasson
Glasgow, Jeannie McKay
Godfrey, James Wayne
Graham, George W., Jr.
Graham, James Richardson
Graham, Tommy Edward
Green, Beatrice Lillian
Green, Lawrence Barry
Greene, Ronald Thomas
Greene, William Wendell
Grier, Preston D.
Griffin, William Loyd
Gulledge, William Edward
Guthrie, Barry Britton
Gwinn, John William

Haas, Earl Wayne
Hair, Robert Clifton, Jr.
Haithcox, Evelyn Hurt
Haithcox, Henry Linton
Hamilton, Patricia Anne
Hamilton, Robert Alexander
Hanna, Anthony Reed
Hare, Charles Dalton
Hargett, William Bradley
Harmer, Michael H.
Harris, Conley Cooper
Harris, James Robert
Harris, Jewell M.
Harris, Richard Hunter
Harris, William Parker
Harrison, Ronald B.
Hartis, Roy Lee, Jr.
Hartis, William Author
Hasty, Cecil Flay
Haynes, Paul Reed, Jr.
Helms, Marvin Luther
Helton, Olie James
Henderson, Marvin Flay
Hendrix, Edward Oliver
Herring, Leonard Elbridge
Herrington, William Owen
Hinson, Barry Franklin
Hoffman, Robert E.
Holden, Harry Richard
Hollifield, Jo Susan
Hollingsworth, Katy Connor
Hooper, Jerry Marion
Hopper, Tracy Lee
Horne, John Logan
Horne, William Edward
Howell, Birdie Mae
Howie, John Lee
Howie, Max M.
Huber, Harry Iverson, III
Hudgins, Jean Montgomery
Hudson, Gerald Tanner
Hudspeth, William Charles
Hunicutt, Bill Barnes
Hunter, Mildred Ann
Huntley, Roger Baxter
Hutchcraft, Mary Evelyn
Hwang, Chun-Wing

Ingold, James Donald

Jackson, James Patrick
Jackson, Norwood Lee, Jr.
Jamison, Kenneth Hardis
Janes, William Wendell
Jewell, James Martin
Johnson, James Edward
Johnson, John Curtis
Johnson, Roger Lee
Johnston, Ruth Leona
Jolly, John Russell, Jr.
Jones, Franklin Alexander

FRESHMEN

Jones, Hayden Hodges
Jones, Wayne Charlesworth
Julian, Benny Arnold

Kale, Michael
Kallam, George Harrison, III
Keistler, William Bradley
Kennemore, Vaudry
Kidd, Charles William
Kilday, James Paul
Kilmon, Edward Snow
King, Alton Clark
Kirby, Kenneth Alexander, Jr.
Kirkley, Jerry Michael
Kiser, Brenda Joyce
Kiser, John Michael
Kistler, Gerald Edward
Knight, Eugene A.
Knight, Marvin Roy
Knight, Swindell Roy, Jr.
Knopf, Wayne Paul

Lambert, Bobby Eugene
Landon, Pete Lee
Lane, Derrick Benjamin
Lane, James Davis
Lane, Lloyd George
Latty, Richard Allen
Laughter, Franklin Delano
Law, Jared Alexander, Jr.
Lawing, Clarence G., Jr.
Lay, Danny Gorden
Ledford, Bernice Wallace
Ledford, William Roosevelt
Leventis, George Andrew
Linder, Leola Luckadoo
Lineberry, William Jerald
Linker, Sidney Jackson
Livingston, John Edward
Logan, William Carlson
Lohr, Philip M.
Long, William Marshall
Love, Rodney Raeford
Lowery, Charles Kenneth
Lunsford, Dedrick
Lynn, Lary Henry

McAllister, Jack Alexander
McClamrock, Michael Raymond
McCoy, John Hunter
McCoy, Kay Keiter
McCracken, Rilla Jane
McIntosh, Robert Henry
McIntosh, Steve Patrick
McKay, Caroline Horne
MacKay, Warren Hale
Manus, Albert David
Maples, Ray Hope

Marley, Connie Jane
Marshall, Charles Jeffory
Marshall, Henry Barnes
Martin, Jerry Lawton
Martin, Mary Patterson
Matthews, Judith Ann
Matthews, Richard Gardner
Maurice, Jane D.
Maurice, Martha C.
Mayer, Petronella
Maxwell, Pearl Robbins
Meacham, John Franklin
Melton, George Richard
Merchant, Frank Julian
Merritt, Fred Edmund
Milano, John Bernard
Miller, Charles Robert
Miller, Kenneth R.
Miller, Nancy Carolyn
Miller, Ronald Christopher
Mills, Lou Jean
Millwood, Mildred Eloise
Mingus, Roger Wayne
Mitchell, James Sanford
Mitchell, Richard Meriwether
Moeller, William Paul
Moore, Edgar Cody
Moore, James Joseph
Moore, Jimmy Franklin
Moore, Michael Dale
Moore, Robert Lee
Morgan, Fletcher Bryson, III
Morris, Charles A.
Morrison, William Edward
Morrow, Florence Margaret
Morton, Richard D.
Mosley, Bert Wayne
Mullis, Richar Lane
Munday, Jerry Wood

Nance, Donald Lee
Nance, William McArthur
Neely, William Denver
Nivens, Walter James

Oates, James Edward
Onley, Robert, Jr.
Osborne, Orion Taylor
Owens, Robert Julian

Paige, Bobbie Ray
Painter, Harold Dean
Pappamihiel, Steve C.
Parker, George Richard, Jr.
Parr, Mayme Jo Anne
Patterson, Joel Hampton, Jr.
Patton, Larry Benjamin
Payne, Elizabeth M.
Payseur, Douglas Waldo

FRESHMEN

Peele, Fletcher McMillian
Pegram, Joseph Waters
Pender, Jerry Monroe
Petty, Charles Emory, Jr.
Pharr, William Hunter
Philemon, Don Richard Lee
Philmon, James D.
Pierce, Myraden
Pipkin, William Vance
Plummer, John Larry
Poplin, Margaret Springs
Porter, Gladys Allgood
Potts, Frank Thomas
Pressley, Clinton Century
Pressley, Shirlee Donald
Price, Harold Eugene
Psomadakis, Gus Pete
Psomadakis, Mary

Raby, Claude Ervin, Jr.
Rankin, Charles Hillis
Ranson, John Neal
Ratchford, James Joseph
Rayfield, Sidney Blair
Rea, Helen Louise
Reep, Tommy Clarence
Reynolds, Larry Clifford
Rhyne, Marshall Hoffman, Jr.
Rice, Robert Edward
Rich, Jerry Clarence
Richardson, Carl Smith
Riley, David Livingstone
Rion, Edward Whaley
Ritchie, Barron Lloyd, Jr.
Robinson, Ronald Gene
Rogers, Ronald Watkins
Roseman, Billy Forney
Ross, Carrie McMurray
Ross, Thomas Wallace
Rowell, Edwin Belk
Royster, William Tandy
Rudisill, James Paul
Russell, Garlin James
Russo, James Darrel

Safrit, Woodrow Sylvester
Sanderson, Carlton Boyd
Sayers, Johnny Gordon
Schmucker, J. Michael
Scism, Betty Jean
Scoggins, Sadie Kittrell
Scruggs, Elford Keith
Self, George S.
Self, Wayne M.
Sellers, Joseph Orson
Sellers, Michael Lesesne
Selvey, Ray Neal
Setzer, Terry Alvin
Shalabi, Rasmi Shaban
Shepherd, Larry William
Shepler, Michael Curtis
Sherrill, John Wesley
Shivar, Douglas L.
Shrum, Ray B.
Simmons, Willard Eugene
Sisk, Larry Grant
Skidmore, William Lee
Smelik, John Peter
Smith, Adron Taylor
Smith, Daniel Jeramiah
Smith, Edgar Frank, Jr.
Smith, Gary Richard
Smith, George Wilson
Smith, Hilda Kaye
Smith, Howard Carlyle
Smith, Larry Wadsworth
Smith, Melton Aubrey
Smith, Philip Ray
Smith, Roy Lee
Smith, Torrence Watson
Smith, Wallace Edward
Smith, Wayne Allen
Soiset, Bill Austin
Sox, Carl Caughman
Spearman, James Morris
Spencer, Jerry Helton
Stanton, LeRoy Efird
Starnes, Joe Lee
Starnes, Oren Brown
Starr, William Worthington
St. Clair, David Wade
Staton, Herman Burnell, Jr.
Steele, Frances A.
Stewart, Fred Brice
Stewart, James Carl
Stewart, John Niles
Stith, David Howell
Stowe, William Blackstone
Strathdee, Jean Grier
Strong, Donald Gilchrist, II
Stroupe, William Harold
Stumpf, Milford Franklin
Sullivan, Barry Clayton
Sullivan, James Wayne
Summerour, Paul Henry
Swing, William Denny
Szilagyi, Gabor Joseph

Talbert, Gerald Howard
Tanner, Edward Eugene
Tasker, Deane Clare
Taylor, Jonathan L.
Taylor, Michael Ervin
Taylor, Vida Sumner
Temple, John Harris
Terry, William Thomas
Thigpen, Daniel Grover
Thomas, Roland Glenn
Thomasson, Michael Wayne
Thompson, Frances Poteat

FRESHMEN

Thompson, James Hope
Thompson, Joseph E., Jr.
Thompson, Larry Wayne
Thrash, Jesse Newton
Thurston, George Walker
Tiller, Roy Wilton
Trapp, Vann Owen
Triplett, Virginia Arlene
Turner, David Frank

VanCamp, Edwin Ray
Vandiver, James Enoch
Vinson, Lawrence Edward
Vinson, Robert Ross

Walden, Edward Ray
Walker, Donald Francis
Wall, John Kelly
Walters, Russell Gary
Ware, Bonnie M.
Washam, William Worth
Watts, Stefen Franklin
Weddle, Lindwood Maurice
Welty, Lester Franklin
Westmoreland, Martha Morgan
Whitaker, Walter Worth, Jr.
Whitley, Gary Lee
Wilkinson, Ivan Eugene
Wilkinson, Richard Stanley
Williams, Albert Jerome, Jr.
Williams, David Leslie
Williams, Donald Terry
Williams, Elizabeth Anne
Williamson, Joe Dyer
Wilson, Mary Jewel
Wilson, Russell Gray
Winebarger, Luola Virginia
Wingate, Daniel Wilson
Winslow, Kent Gilbert
Winslow, Urbian Curtis
Withers, Mickey Joel
Witherspoon, James Logan
Wofford, Benjamin Gary
Womble, Tommy Glen
Wood, Luke Everett
Wyatt, Dee M.
Wyatt, Johnny Leon
Wyndham, Jane Hester

Yandle, Horace Brookes, Jr.
Yates, Mattie Mae
York, Reginald Oscar

Zeman, Jimmy Henry
Zoutewelle, Leo Johannes

UNCLASSIFIED COLLEGE GRADE

Alexander, Lawrence Eric
Andersen, Bruce Arnold
Anderson, Rebecca Newsome

Barrett, Bobby Ray
Belk, Mark Donald
Bickett, Edgar Porter
Brendle, Selma Guyer
Briggs, Eleanor Green
Brodmann, George L.
Byrum, William Albert

Costner, Rosena H.
Dahir, Sabir
Dicks, Theodosia Hellen
Eagle, Vickey Reece
Edge, Samuel B.
Edwards, Jesse Samuel

Frazer, John Franklin, III
Frickhoeffer, William H.
Fulson, Bernice Poole
Golden, Bertha W.
Gulley, James M.

Hall, Jimmy Carpenter
Helderman, Nathan U.
Hinson, Mary Gayla
Hoffman, John Lewis
Howell, Leonard Maxwell
Hurdle, William R.
Jackson, Helen H.
Keller, Howard Nelson
Key, Edwin Scott

Leonard, George Peter
Little, David N.
Long, Onita Lee
Mayer, Michael Dainis
Moore, Martha L.
Morton, Eunice M.
Murphy, Charles Linder

Neel, Roger Dean
Pender, Shaw Exum
Pigg, Henry Miller
Power, Gail Carol
Price, Martha Elizabeth
Quinn, Evelyn Dunlap
Rea, Lee Mack
Regehr, James Richard
Riddle, Colleen Gabriel
Riley, William Louis

Scott, Gerald R.
Smith, Ben Wofford
Smith, Madie Maddox
Smith, Robert H.
Smith, Terrell Owen Duval
Snell, Wilson Maurice
Soule, Guy Vassar, Jr.

UNCLASSIFIED COLLEGE GRADE

Stewart, Floyd Grant
Summerville, William K.
Thomas, John Greenberry
Tillett, Caroline MacRae
Tillotson, Sarah Ann

Walters, James Anthony
Willingham, Thomas Donald
Wolfe, Robert Wayne
Youngblood, John Frank, III

AUDITORS

Adamson, John David
Alexander, Jerry Marvin
Ballard, Ruth Bryant
Barrett, S. Jane
Bennett, Nancy Jane
Benoy, Dale Clayton
Brinkley, William Dunlap
Burgess, Mary F.
Burke, Phyllis Jane

Champion, Eugenia Elnora
Connelly, Jennifer McNeill
Creel, Manya R.
Croft, Orilla Josephine
Drane, Dorothy Willena
Dunn, Elizabeth V.

Etchison, William Edmund
Everett, William Carter
Flowe, Thompson Ralph
Gaunt, George Loren, Jr.
Gray, Robert Frederick, Jr.
Greene, Helen Jane

VonHaudschuh, Barbara Scott
Holt, Doris
Hovis, Betty Lou
Humphrey, Simon Weaver
Huneycutt, Elizabeth Jane

Jarrett, Doris Annette
Johnson, Ola Mae

Kelly, Henry Aloysius
Kilroy, Virginia Mary
Knox, Johnny Marshall
Kress, Howard Carl

Laney, Jean Keener
Lanford, Joe Earl
Lawless, Linda Jane
Leonard, Charles J.
Mansfield, Donald Rex
Massy, Agnes L.
Moore, Edward Lee

Nichols, Grace Crawford
Outen, Joel, Thomas
Pace, Roy Lee
Perez, Guillermo Enrique
Proctor, William Edward
Purdy, Helen Strawn

Randle, Marilyn Deese
Rea, Ralph Ware
Rees, Ruth Wolcott
Reich, Jesse Levon
Reynolds, Bobby Ray
Rhyne, Henry Henkel

Scott, Robert Taylor
Shoemaker, Herman Eugene
Smith, Durwood Sidney
Teague, Ellison Marion
Thrower, Barbara Lois
Watts, Ovie Durant

SPECIAL STUDENTS

Cherry, Jimmy Andrew
Cline, Kenneth Alvin
Hudson, Harold Lamont
Ligon, Helen Lenora
McGee, Michael Henry
McIntosh, Alfred Welch
McKeel, James Robert

Martin, James Larry
Morrow, Kenneth Edward
Pouinard, Roselyne Slyveanne
Steele, James Gaston, Jr.
Thompson, Sandra Jane
Tumbolt, Ariadne Yolanda
White, Dilly Nadine.

SUMMARY OF ENROLLMENT FOR 1960-1961

SOPHOMORES		220
FRESHMEN		511
UNCLASSIFIED COLLEGE GRADE		77
AUDITORS		57
SUMMER SESSION		384
ADULT EDUCATION		110
Dental Assistants	20	
Management Problems in the Operation of a Business	32	
Review Class for North Carolina Engineering Registration Examination	58	
	110	
TOTAL ENROLLMENT		1359

AWARDS

CHEMISTRY AWARD	*James Clifton Davis*
MATHEMATICS AWARD	*James Clifton Davis*
PHYSICS AWARD	*James Harvey Sexton*
BONNIE E. CONE AWARD	*Hugh Leon Ferguson, Jr.*
SERVICE AWARD	*Esther Rose Erwin*
BILL MITCHELL AWARD	*James Fraser Cornell, Jr.*
BILL MITCHELL AWARD	*Dorce Howard Payne, Jr..*

COLLEGE MARSHALS

CHIEF MARSHAL	*Gladys Allgood Porter*
MARSHAL	*Fitzhugh Lee Austin*
MARSHAL	*Christian Curtis Collins*
MARSHAL	*Hugh Leon Ferguson, Jr.*
MARSHAL	*John Hunter McCoy*
MARSHAL	*William Edward Morrison*

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The Catalog of

CHARLOTTE COLLEGE

1962-1963

1949

A Two-Year Junior College
Accredited by:

The Southern Association of
Colleges and Secondary Schools

Member of:

Southern Association of
Junior Colleges
American Association of
Junior Colleges

Mailing Address:

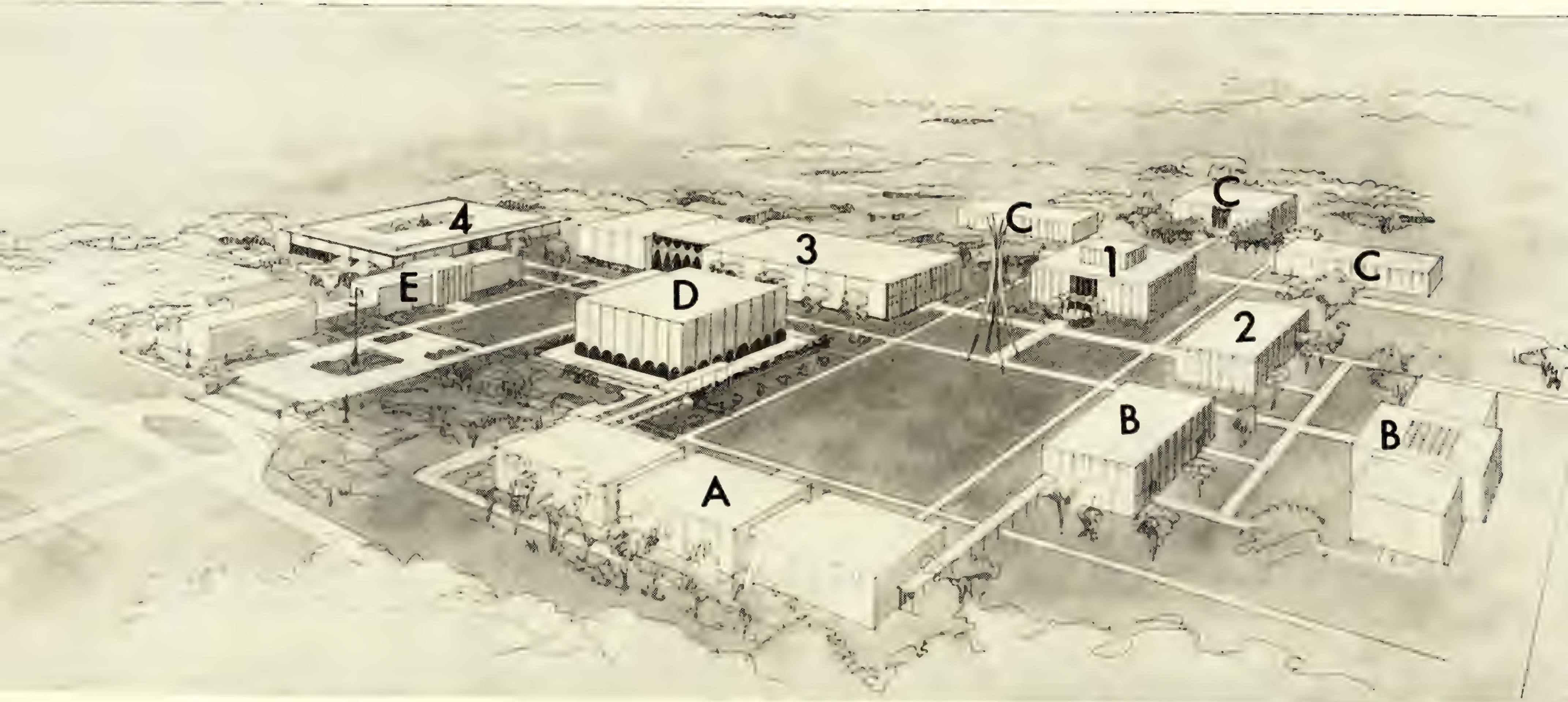
Charlotte College
P. O. Box 20428
Charlotte, North Carolina

Charlotte College

Charlotte
North Carolina

1962-1963

CHARLOTTE COLLEGE CAMPUS



Buildings Now In Use
1—Science-Engineering
2—Liberal Arts
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3—Library—East Wing
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Buildings Planned for Future
A—Fine Arts
B—Liberal Arts
C—Science-Engineering
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1962

SEPTEMBER

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						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

OCTOBER

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	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
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NOVEMBER

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1963

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CALENDAR OF EVENTS

FALL SEMESTER

September 10	Registration of Returning Students Who Have Pre-registered and Paid Registration Fee
September 10, 11, 13	Orientation of New Students
September 12	Registration of New Students Who Have Pre-registered and Paid Registration Fee
September 14	Registration of Students Who Have Not Pre-registered and Paid Registration Fee Prior to September 8
September 17	First Day of Classes
September 24	Last Day to Add Courses for Credit
October 8	Last Day to Drop Courses without Penalty
November 20	Last Day of Classes Before Thanksgiving Holidays
November 26	Classes Resume
December 21	Last Day of Classes Before Christmas Holidays
January 2, 1963	Classes Resume
January 18	Last Day of Classes
January 21-25	Final Examinations

SPRING SEMESTER

January 24, 25	Orientation of New Students
January 28	Registration of Returning Students Who Have Pre-registered and Paid Registration Fee
January 29	Registration of New and Other Students Who Have Not Pre-registered and Paid Registration Fee Prior to January 26
January 30	First Day of Classes
February 6	Last Day to Add Courses for Credit

February 20	Last Day to Drop Courses without Penalty
April 12	Last Day of Classes before Spring Holidays
April 22	Classes Resume
May 21	Last Day of Classes
May 23-29	Final Examinations
June 2	Graduation Exercises

SUMMER SESSIONS, 1963

FIRST TERM

June 6	Registration
June 7	First Day of Classes
July 4	Holiday
July 12	Last Day of Classes
July 15, 16	Final Examinations

SECOND TERM

July 22	Registration
July 23	First Day of Classes
August 26	Last Day of Classes
August 27, 28	Final Examinations

ADMINISTRATION AND FACULTY

BOARD of TRUSTEES of CHARLOTTE COMMUNITY COLLEGE SYSTEM

J. Murrey Atkins	*Chairman*
John Paul Lucas	*Vice-Chairman*
Dr. E. H. Garinger	*Secretary*
Dr. Bonnie E. Cone	*Treasurer*
E. A. Beaty	
Thomas M. Belk	
Linn D. Garibaldi	
Robert Lassiter, Jr.	
C. A. McKnight	
John A. McRae (Deceased, February 23, 1962)	
Addison H. Reese	
Oliver R. Rowe	
Sheldon P. Smith	
R. L. Taylor	
Dr. Thomas Watkins, Sr.	

PERSONNEL OF THE COLLEGE

OFFICERS OF ADMINISTRATION

Bonnie E. Cone	*President*
Mildred E. English	*Student Personnel*
Harper Higgins	*Registrar*
Ramona F. Potter	*Public Relations, Alumni Affairs*
W. L. Yarbrough	*Business Manager*

OFFICE AND GENERAL STAFF

Betty B. Adkins	*Receptionist*
Lisette W. Connor	*Secretary to Registrar*
Jerome O. Darholt	*Construction Supervisor*
Ruth R. Holden	*Bookstore and Snackbar Manager*
William F. Hutchinson	*Maintenance Supervisor*
Faye McCurry	*Secretary to Registrar*
Linda R. Patterson	*Secretary to Business Manager*
Juanita S. Sims	*Secretary to President*
Alona Stewart	*Secretary to Public Relations, Alumni Affairs*

FACULTY, 1961-1962

FULL-TIME FACULTY

Baker, L. Evelyn	English *A.B., Winthrop College* *A.M., Duke University*
Corkey, W. B. H.	Philosophy, Psychology, Religion *B.A., Queens University* *M. A., University of North Carolina*
Denny, Mary R.	English *A.B., Salem College* *A.M., Duke University*
Fore, Mary S.	English *A.B., Winthrop College* *A.M., Columbia University*
Goodrum, Cloyd S., Jr.	Mathematics *B.A.E., Rensselaer Polytechnic Institute* *A.M., University of North Carolina*
Green, Philip J.	History *A.B., M.A., University of Alabama* *Ph.D., University of Chicago*
Hechenbleikner, Herbert	Earth—Life Sciences *A.B., University of North Carolina* *A.M., Ph.D., Harvard University*
Hoyle, Frances B.	Spanish *A.B., The Woman's College of the University of North Carolina* *A.M., New York University*
Lawrence, Martha E.	Mathematics *A.B., Winthrop College* *A.M., Duke University*
Macy, Pierre	French *Bachelier es lettres, University of Nancy* *Licencie es lettres, University of Dijon* *Agrege des lettres, Docteur es lettres, University of Paris*

Markham, Eleanor M.	Mathematics *A.B., A.M., Duke University*
Morrow, Robert A., Jr.	Mathematics *B.S., M.S., North Carolina State College*
Norman, John H.	Chemistry *A.B., Erskine College* *M.A., University of North Carolina*
Ploger, Verne R.	Economics and History *B.G.E., M.A., University of Omaha*
Scherger, Mozelle S.	Librarian *B.S., Appalachian State Teachers College* *B.S.L.S., University of North Carolina*
Siegel, Joel Herbert	English *A.B., M.A., University of North Carolina*
Solecka, Jadwiga	German *Magister, University of Lwow*
Stephens, Patricia	English *B.S., Memphis State University* *M.A., University of North Carolina*
Stoughton, Maurice J.	Electrical Engineering, Physics *A.B., Harvard University* *M.S., Princeton University*
Tarlton, Shirley Marie	Librarian *A.B., Queens College*
Tinkham, Mark F.	Physics *A.B., M.Ed., University of North Carolina*
Whitener, Joseph B.	Chemistry *A.B., M.A., Trinity College (Duke University)*
Winningham, Edyth F.	History, Political Science *A.B., University of North Carolina* *A.M., University of North Carolina*

PART-TIME FACULTY

Barton, Easley B.	Electrical Engineering *B.E.E., Clemson College*
Bernstein, Percy L.	Mathematics *B.E., Tulane University* *M.A.T., Duke University*
Black, Cleta I.	English *B.S., Appalachian State Teachers College*
Blair, Warren D.	Shorthand *A.A., Charlotte College* *A.B., L.L.B., University of North Carolina*
Bolton, James L.	Physics *B.S.M.E., University of South Carolina*
Carner, Richard L.	Reading *B.S., MA., Ph.D., Syracuse University*
Cheek, William Edward	Chemistry *B.S., M.A., Appalachian State Teachers College*
Crowell, Robert K.	History *B.A., Concord College*
Darholt, Jerome O.	Mechanical Engineering *B.M.E., North Carolina State College*
DeLaney, Patricia K.	Political Science *B.S., Simmons College* *M.A., University of North Carolina*
Funderburk, William H.	Civil Engineering *B.C.E., North Carolina State College*
Griffin, Lula Elizabeth	History *B.S., Mary Washington College*
Gunn, Eric M.	Sociology *B.S., M.A., Mississippi Southern College* *Ed.D., George Peabody College*

GYLES, RONALD O.	ELECTRICAL TECHNOLOGY	*B.E.E., B.S., M.Ed., North Carolina State College*
HARRISON, JANE E.	TYPING	*A.B., Randolph-Macon College* *M.B.A., Indiana University*
HINSON, KATHERINE W.	ENGLISH	*A.B., M.A., East Carolina College*
HOLDEN, WILLIAM H.	GEOLOGY	*A.B., Harvard University* *B.S., The Citadel*
HUNTLEY, FLORA S.	HISTORY	*B.A., University of New Zealand*
INGRAM, PHYLLIS	FRENCH	*B.A., University College of South Wales*
KIRBY, DOROTHY A.	BOTANY, ZOOLOGY	*A.B., Atlantic Wilson College* *M.A., University of North Carolina*
KNOX, JAMES M.	ZOOLOGY	*B.S., Davidson College* *M.Ed., University of North Carolina*
LAFFERTY, OMA C.	HISTORY	*B.A., Tulane University* *M.A., University of Chicago*
MANN, ROBERT LEROY	ENGINEERING MECHANICS	*B.S.C.E., The Citadel* *M.S.C.E., University of Southern California*
MARQUARDT, ERLEEN J.	PUBLIC SPEAKING	*B.A., Arkansas State College* *M.A., Columbia University*
MARSHALL, JAMES R.	MATHEMATICS	*B.S., Appalachian State Teachers College* *M.Ed., University of North Carolina*

MINTER, WINFRED PLEASANTS — POLITICAL SCIENCE
B.S., M.S., Virginia Polytechnic Institute
Ph.D., University of Chicago

MRAZ, JOHN A. — BUSINESS LAW
A.B., L.L.B., University of North Carolina

OUSLEY, DONALD GLEN — ACCOUNTING
B.S., Pfeiffer College

PLYBON, LOUISE M. — LIBRARIAN
B.S., Appalachian State Teachers College
B.S.L.S., M.S.L.S., George Peabody College for Teachers

POTTER, RAMONA F. — READING
A.B., Ripon College

POTTS, JAMES M. — ENGINEERING MECHANICS, MATHEMATICS
A.A., Mars Hill College
B.S.M.E., M.S.M.E., North Carolina State College

RIEKE, ROBERT WILLIAM — HISTORY
B.A., Carleton College
M.A., Ph.D., University of Wisconsin

ROBERTSON, BRUCE — CHEMISTRY
B.S., Kansas State University
M.S., Oklahoma State University
M.Ed., University of Virginia

ROUNTREE, EMILY S. — MATHEMATICS
B.S., University of South Carolina

RUSSELL, LUTHER O., JR. — ENGINEERING GRAPHICS
B.S.M.E., Duke University

SCOTT, DEWITT H. — JOURNALISM
A.B., University of Miami
M.S., Boston University

SERINKEN, SINA — CIVIL TECHNOLOGY, CIVIL ENGINEERING
B.S.C.E., Robert College
M.S.C.E., Duke University

Smith, John F.	**Mathematics** *B.A., M.A., Furman University*
Still, William C.	**Botany** *B.S., Clemson College* *M.Ed., University of North Carolina*
Stroud, J. B.	**Mathematics** *B.S., Davidson College*
Swofford, Clyde	**Mathematics** *A.B., Wake Forest College*
Todd, Eugene S.	**Coach** *B.S., Clemson College* *M.Ed., University of North Carolina*
Williamson, Sadie H.	**Business Administration** *A.B., The Woman's College of the University of North Carolina* *M.S., University of North Carolina*
Womack, Nancy S.	**Shorthand, Typing** *B.S.S.A.T., The Woman's College of the University of North Carolina*
Woodruff, Harvey L.	**Director of Music** *B.S., New York University* *M.A., Teachers College, Columbia University*

GENERAL INFORMATION

OBJECTIVES OF THE COLLEGE

Charlotte College recognizes its responsibility to the community and the individual citizens to provide educational opportunities to meet private and public needs. It feels that these needs include enriched personal living, cul-

:ural development, and responsible citizenship. The College holds that the preparation of young people to be competent in an occupation or to be capable of advancing in any senior college is a major part of this responsibility. Finally, it is one of its deepest convictions that a community college has a responsibility to the adults of that community to offer them opportunities for educational progress in areas of vocational, cultural, and general education.

Toward meeting these responsibilities, Charlotte College adopts these threefold objectives:

First, to prepare students for further academic or preprofessional study in a four-year college or university through two years of college work in most major fields.

Second, to prepare students for immediate employment through the two-year courses in business and technical education.

Third, to provide for employed adults opportunities for further education which will increase occupational competency and aid personal growth through organized study in vocational and general education.

MEMBERSHIP AND ACCREDITATION

Charlotte College is a member of the North Carolina College Conference, the Southern Association of Junior Colleges, and the American Association of Junior Colleges. It is accredited by the Southern Association of Colleges and Secondary Schools.

Credits earned at Charlotte College in curricula leading to degrees are transferable to senior colleges and universities.

LOCATION

Charlotte College is located on a 270-acre campus 8 miles from downtown Charlotte on Highway 49 northeast of Charlotte. With a population of 200,878, Charlotte, in Mecklenburg County, North Carolina, serves as the center of commerce, industry, and culture of an area of twenty-four counties.

In the fall of 1961, the College moved from the old Central High School buildings in the center of Charlotte to the new campus on Highway 49. The first two buildings, Science-Engineering and Liberal Arts, temporarily house parts of the library, bookstore and administrative offices. Plans for the Library and Student Services Buildings are on the drawing boards, and it is anticipated that these two buildings will be completed in the spring of 1963.

HISTORY

In the summer of 1946, when North Carolina colleges anticipated an unprecedented increase in enrollment because of returning veterans, the North Carolina College Conference and the State Department of Public Instruction decided to sponsor college centers to provide for first-year college work in Charlotte and in eleven other communities in this state. From the first, the Charlotte College Center was the largest in the state. With the addition of second-year work in the fall of 1947, the enrollment of the Charlotte College Center reached 304, making it larger than all the other college centers combined.

In 1949, the North Carolina College Conference felt that the emergency in education was over and voted to discontinue its sponsorship of the college centers. However, the large enrollment at Charlotte College in 1948-1949 indicated to the Charlotte Board of School Commissioners the continued need for such an institution and prompted them to take measures to provide for a permanent college. At the request of the Charlotte Board of School Commissioners, a bill providing for the continuation of the Charlotte College Center as a permanent community college was passed by the 1949 session of the General Assembly. This bill authorized the Board of School Commissioners to administer the college as a part of the public school system and to finance the institution by charging the students tuition. At the outset any additional finances which were needed were to be provided from non-tax monies. In the event that these funds proved to be insufficient, the measure authorized a special election to provide a tax of not more than five cents on the $100. Since it had been apparent for some time that the available income was inadequate, a special tax election was held and approved by the electorate of the city of Charlotte on May 18, 1954. This approval provided a two cents tax on the $100 property valuation for the Charlotte Community College System of which Charlotte College is a part. In 1955, the General Assembly of North Carolina made the first appropriation for support of Charlotte College.

The two cents city levy voted in 1954 was eliminated on April 26, 1958, when citizens of Charlotte and Mecklenburg County voted a two-cent tax on the $100 property valuation in Mecklenburg County for the support of the Charlotte Community College System. This officially brought the college under the North Carolina community college system, gave it its first Board of Trustees, and made it eligible for annual grants-in-aid from the State.

On November 4, 1958, a successful bond election in Mecklenburg County provided the necessary local funds which assured the college of the maximum State grant to enable it to acquire a site and initiate its building program. The 260-acre campus on highway 49, located about eight miles from the center of Charlotte, was purchased on February 4, 1959.

A state-wide bond election on October 27, 1959, provided for community colleges additional capital improvement funds available on a matching basis. Another Mecklenburg County bond election, November 8, 1960, assured the Charlotte Community College System of the necessary local matching funds to provide classroom, administrative and library facilities. In 1960 the Charlotte Community College Foundation was established to enrich and strengthen the community colleges through private sources which will supplement state and county appropriations and student fees.

In 1961-62 Charlotte College reached a total enrollment of 1617 individuals, including 1491 in regular college classes and 126 students in non-college credit courses. The College has a faculty of 68 full or part-time instructors.

LIBRARY FACILITIES

The library is located on the main floor of the Kennedy Building. An open shelf collection of 20,000 volumes and 200 periodicals with ample space for new books is provided.

In addition to the general circulating collection, reserve collections in each subject field especially selected and kept up to date supplement classroom instruction.

Conference rooms and typing rooms for student use are located in the library.

Students may use also the Charlotte Public Library, which consists of one main and nine city-county branches, and inter-library loan through which books for research are available from the University of North Carolina Library Interlibrary Center.

COUNSELING AND TESTING

The college provides counseling service for students by assigning each student to a member of the faculty according to his particular field of interest. The faculty counselor helps the student to arrange his program of study at Charlotte College and approves the courses to be taken prior to the registration for each semester. Subsequent changes in courses must be made through the counselor. The Registrar and the Director of Student Personnel are also available to assist the student.

Students who desire help in clarifying their occupational goals may consult the Director of Student Personnel for occupational information sources and for information on aptitude and interest tests to aid in deciding on an occupation.

Each entering freshman is given an English placement test. The results of this examination help in determining the student's readiness for college English. Non-credit remedial work is required of students judged to be lacking in proficiency.

VETERANS AND WAR ORPHANS EDUCATION

Charlotte College provides educational opportunities for veterans and war orphans. Veterans seeking training under the provision of Public Law 894 (Federal Educational Rehabilitation Program), or Public Law 550 (Veterans' Readjustment Assistance Act of 1952), and war orphans seeking training under Public Law 634 (War Orphans' Educational Assistance Act of 1956) must enroll for a minimum of fourteen semester hours in order to receive full subsistence. Routines involving letters of eligibility, interruption of training, and the like are handled by the college office. Technical questions relating to the Veterans Administration are referred to the Charlotte Office of the Veterans Administration, which is located at 205 Liberty Life Building, Charlotte, N. C., telephone FRanklin 6-3692.

Before the time of registration, each veteran or war orphan who wishes to enter Charlotte College should do the following:

1. Make application for admission according to procedure described on pages 29 to 32 of the catalog. Forward to the Registrar transcripts of all previous high school and/or college courses completed before or after induction or as a part of Army or Navy basic training or specialized training program, and also records of courses taken by correspondence through the United States Armed Forces Institute. The latter records may be secured from United States Armed Forces Institute, Madison, Wisconsin. All transcripts and records should be sent directly from the school, college, or other agency to Charlotte College.

2. Make application through the local Veterans Administration Office for a Certificate of Eligibility and Entitlement, or, if the veteran has interrupted his previous training in another institution, for a supplemental certificate of eligibility.

War orphans under Public Law 634 and veterans in training under Public Law 894 or 550 will receive an education and training allowance each month from the Government to meet part of the expenses of their training and living costs. Tuition, fees, books, supplies, and equipment will not be paid by the Government; instead, they will have to be paid out of the monthly allowance. A veteran or war orphan will get his monthly allowance some time after the end of each month of training completed. Before the Veterans Administration can pay him, the law requires a certification from the veteran or war orphan and Charlotte College that he was enrolled in and was pursuing his course during that period.

Veterans and war orphans attending Charlotte College are required to maintain satisfactory academic achievement and attendance.

EDUCATION FOR VOCATIONALLY HANDICAPPED

Men and women who have suffered a disability which renders them vocationally handicapped or which might be expected to render them vocationally handicapped are eligible for services of the Division of Vocational Rehabilitation. These services include vocational counseling and guidance, medical treatment, training (payments of costs such as books, fees, tuition), and placement. These services are available at no cost to the individual.

A Vocational Rehabilitation Officer is available in Charlotte for interviewing applicants. Appointments may be made by calling the Vocational Rehabilitation Office, Room 206, 517 Insurance Lane, telephone FRanklin 5-8686.

EMPLOYMENT SERVICE

The college assists students in securing part-time or full-time employment during their enrollment at Charlotte College and gives special attention to the placement of students who graduate in the terminal curricula. Application should be made in person at the office of the Director of Student Personnel.

STUDENT ACTIVITIES

STUDENT GOVERNMENT

It is the policy of Charlotte College to encourage and develop self-government of the students. The Student Government Association was organized in 1946, the first year of the Charlotte College Center, and has continued to function since that time.

The Student Council is composed of the president, vice-president, secretary, and treasurer of the Student Government Association; the president, vice-president, secretary-treasurer, and eight representatives of the Sophomore Class; the president, vice-president, and secretary-treasurer, and eight representatives of the Freshman Class; the chairmen of standing committees; and the editors and business managers of the publications. The functions of these school officers include serving the students in every possible way, forming certain committees vital to the Student Government program, and formulating, with the help of the students and faculty, certain school policies.

ATHLETICS

The athletic program is at present confined to basketball. The Charlotte College Owls play a full schedule of games against teams of other junior colleges who are members of the Virginia-Carolina Junior College Conference of the National Junior College Athletic Association. Additional sports will be added to the program as college enrollment and student interest indicate the need for them.

RECREATION

Various programs of recreation and entertainment are planned and carried out by the students under faculty supervision. Formal and informal dances are held throughout the year. Other programs which attract major interest and participation include coffee-hours, picnics, and receptions. Suggestions of the students are used for planning additional activities.

PUBLICATIONS

LITERARY MAGAZINE

The Parnassian, a literary magazine, is published by the members of the Writers Club under the supervision of the English Department. This annual publication was first issued in the spring of 1957 and has as an aim the promotion of interest in good writing. The broad scope of subject matter gives an interesting presentation of student opinion and sentiment.

NEWSPAPER

To provide information for all persons interested in Charlotte College, the students publish a newspaper, the Charlotte *Collegian.*

The purposes of the newspaper are to create a wholesome school spirit, to support the best traditions of the institution which it represents, to encourage worthy school activities, to promote scholarship, to encourage the ideals of true sportsmanship, and to record the history of the school.

YEARBOOK

Charlotte College's yearbook, *Si Si,* was first published in the spring of 1950. Since that time it has greatly increased in size and student interest. The purpose of the yearbook is to present a written and pictorial record of each college year. This publication is supported through advertisements and the Yearbook Fee. Every student who pays this fee is entitled to a copy of *Si Si.*

ORGANIZATIONS

Academic

Le Cercle Francais, the French Club, is open to all students interested in the language, customs and culture of the French people. Social and educational meetings are held for the purpose of broadening the members' knowledge of the French civilization and increasing their conversational ability in the French language.

El Club Espanol is open to students from the Spanish classes who are interested in fellowship and conversation in Spanish. The meetings are informal and are usually conducted in both Spanish and English. Frequently Spanish speaking guests talk to members of the club about the Hispanic countries. The students also participate in the presentation of plays, songs, dances, and films.

The purpose of the Charlotte College Chapter of *Student National Education Association* is to inform students of the possibilities offered in the field of education, to help them plan their courses of study, and to give them insight into the actual teaching situation. An attempt is made, also, to direct the interest of others toward the teaching profession.

The *Collegiate Council for United Nations* seeks through discussion groups and inter-campus meetings to gain an understanding of the activities of the United Nations and of the problems facing its member nations. Its broader purpose is to encourage student interest in international affairs.

Its membership is open to all students, and foreign students are particularly urged to take part in the activities of the Council.

The Charlotte College Engineers' Club was formed in the fall of 1960 to give the student engineer a greater understanding of all phases of engineering. Through the assistance of the Charlotte Engineers' Club examples of engineering theory are presented in the form of practical applications.

HONORARY

Phi Theta Kappa is a national honorary scholastic society the object of which is to promote scholarship, to develop character, and to cultivate fellowship among students in the junior colleges of America. The Charlotte College chapter, Iota Lambda, was established in May, 1957. Students who display good moral character and, at the time of election, are within the scholastic upper ten per cent of the regularly enrolled student body are normally eligible for membership.

Sigma Tau Sigma is the national honorary fraternity recognizing excellence in social science. The Charlotte College chapter, Alpha, was established in May, 1957, and is open to students displaying interest and achievement in the social sciences.

SERVICE

The *Charlotte College Civitan Club* is an organization devoted to building character and citizenship through service to the college community. Charlotte College Civitan Club is under the sponorship of the Myers Park Civitan Club. All men students are eligible for membership.

Circle K is a men's service organization that seeks to develop activities that will be of value to the college. Students may ask to join Circle K or they may be asked by other Circle K members to become affiliated. The Charlotte College Chapter is sponsored by the Mecklenburg Kiwanis Club.

SOCIAL

The principal aim of *Sigma Lambda Chi* fraternity is to promote the high standards and ideals of Charlotte College through wholesome social activities and services to the students and to the College.

LITERARY

The Writers' Club has as its purpose the discovering and developing of talent sufficient to provide a genuine

support toward the production of a literary magazine. Students showing an interest in writing are invited to become members of the Writers' Club.

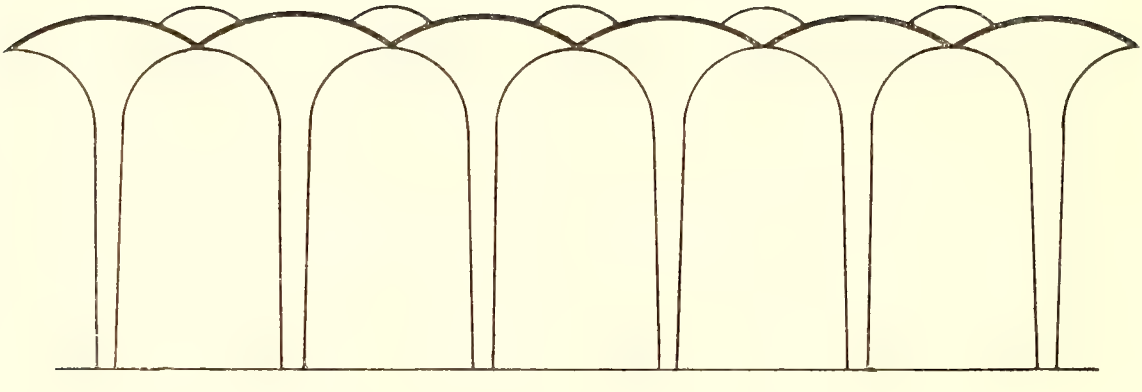
MUSICAL

The Charlotte College Chorus, which was re-organized in 1956, has added much to the atmosphere of the school. The members of this group meet weekly with a dual purpose of enjoying singing together and improving their musical abilities. The Chorus furnishes musical programs for special events during the year. One semester hour of credit may be earned for each semester of participation. However, only four semester hours of credit may be earned in this program.

ADVISORY

The *Freshman Advisory Committee* was established at Charlotte College during the fall quarter, 1957. There is a dual purpose for this committee: to orient new students in the ways of Charlotte College and to assist the faculty advisers in guiding their students.

More than forty students are selected by the Student Council to serve on this committee.



GENERAL REGULATIONS

REQUIREMENTS FOR ADMISSION

TO FRESHMAN STANDING

Formal application for admission to freshman standing is made by submitting

(1) Personal data called for on an application form which may be obtained from the Charlotte College office.

(2) Record of satisfactory high school or preparatory school achievement. Such achievement is indicated by

 (a) the completion of an accredited four-year high school or preparatory school course, or its equivalent, which ordinarily means graduation;
 (b) sixteen acceptable units, defined below.

(3) Satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

Sixteen Acceptable Units: the prescribed units presented for admission are determined by the program the student wishes to enter, university parallel or terminal.

University Parallel: The prescribed course requirements for all university parallel curricula are determined by the entrance requirements of the college or university to which the student plans to transfer his Charlotte College credits.

If a student plans to attend the University of North Carolina or the Woman's College of the University of North Carolina, the prescribed course requirements are as follows*:

English	4 units
Algebra	1½ units
Plane Geometry	1 unit
Foreign language (2 years in 1 language)	2 units
United States History and Social Science	2 units
Natural Science (1 year with laboratory)	1 unit
Electives	4½ units**

If a student plans to attend the North Carolina State College of Agriculture and Engineering of the University of North Carolina, the prescribed course requirements are as follows*:

English	4 units
U. S. History and Social Science	1-2 units
Algebra	1½-3 units
Plane and Solid Geometry	1-1½ units
Natural Science	1-2 units
Electives	3½-7½ units**

Students who plan to enter other colleges should consult the catalogs of those institutions for entrance requirements.

Deficiencies: If a student enters with deficiencies in foreign language or mathematics, he may remove these deficiencies by taking prescribed courses at Charlotte College.

Terminal: The prescribed course requirements for the terminal curricula in Business Administration and Accounting or in General Business and Secretarial Science are as follows:

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* Solid Geometry is required for students majoring in Engineering, Chemistry, Physics, and Mathematics.

** Only 3 units of the 16 units can be in non-academic or vocational subjects.

English	4 units
Mathematics	1-2 units
Natural Science	1 unit
United States History and Social Science	1-2 units
Electives	7-9 units

College Entrance Examination: All candidates for admission will be required to present satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

Arrangement for these tests is the responsibility of the applicant and should be made with the College Entrance Examination Board, P. O. Box 592, Princeton, New Jersey, not less than one month before the date of the test. On the application for the test the student should specify that the scores be sent to the Registrar, Charlotte College, P. O. Box 20428, Charlotte 2, North Carolina.

College Entrance Board tests are given at a large number of examination centers throughout the United States, including Charlotte, North Carolina, on the following dates:

Wednesday, August 8, 1962
Saturday, December 1, 1962
Saturday, January 12, 1963
Saturday, March 2, 1963
Saturday, May 18, 1963
Wednesday, August 14, 1963

Advanced Placement Course Credit: Any student may apply for course credit in appropriate subjects if he has had an Advanced Placement Course in secondary school (or equivalent) and has received a score of four or five on the Advanced Placement Test. These tests are given in May of each year by the College Entrance Examination Board.

TO ADVANCED STANDING

Formal application for admission to advanced standing is made by submitting

(1) Personal data called for on an application form which may be obtained from the Charlotte College office.

(2) A transcript of all former college work.

(3) Satisfactory scores on the Scholastic Aptitude Test of the College Entrance Examination Board. If such results are not available, the transfer student will be required to take the Scholastic Aptitude Test of the College Entrance Examination Board.

TO IRREGULAR STANDING

UNCLASSIFIED COLLEGE GRADE: A student who has completed two years of college work and wishes to take other required first or second year courses is termed an "Unclassified College Grade" student. In addition to meeting the requirements for advanced standing, such a student must also present a letter of permission from the senior institution to which he expects to transfer the credits earned at Charlotte College.

SPECIAL STUDENT: Students twenty-one years of age or older, who have not been able to secure the required number of units for admission to regular standing, will be allowed to take without credit any college course for which they are prepared. Grades thus earned will be recorded but not transferred because they carry no credit toward graduation.

AUDITORS: Students who wish to audit courses must register through the College office. Auditors receive no credit and are not required to attend classes, participate in class discussion, or take tests and examinations.

REQUIREMENT FOR READMISSION

A grade record which indicates satisfactory progress is a requirement for readmission. The college reserves the right to declare a student ineligible to return if his grades do not indicate such progress.

REGISTRATION

Registration for credit in any course is limited to the first week of the semester.

Under the semester system, five subjects of not less than fifteen semester hours total constitute a full college program, but a student may register for less work. Students who maintain a B average may obtain special permission from the Registrar to take an additional course.

SCHEDULE OF CLASSES

DAY CLASSES:

Day school classes are scheduled from eight in the morning until four in the afternoon.

EVENING CLASSES:

Classes are scheduled from four until ten o'clock.

ATTENDANCE

Each student is expected to attend all sessions of the courses in which he is enrolled because he is held responsible for all assignments, including tests. No class cuts are allowed and no make-up tests are given.

Even in the event of personal illness or other unavoidable circumstances, no student will be given credit for any course unless he has attended at least 75 per cent of the total class hours of instruction.

CHANGE OF COURSE

In order to change a course, a student must get written permission from his advisor, the instructor of the course, and the registrar. No student will be permitted to change a course after the first week of a semester.

WITHDRAWAL

Any student who leaves the college, except after the close of a semester, without written notification to the office, will receive a mark of F in all courses.

GRADING

The unit of measurement of college work is the semester hour. It represents one lecture hour per week for one semester. Two laboratory hours are considered to be equivalent to one lecture hour.

Letters are used to indicate the quality of work done. Each letter carries a quality point value for each semester hour of work attempted. The meaning of each letter with its accompanying quality point factor is as follows:

A	4 quality points	Excellent
B	3 quality points	Good
C	2 quality points	Fair
D	1 quality point	Passing
F	0 quality points	Failing
I	0 quality points	Incomplete
W	0 quality points	Official withdrawal

Quality Point Ratio: A student's quality point ratio is determined by multiplying the quality point factor for each grade by the number of hours received in that course and adding all accumulated quality points together then dividing by the total number of hours the student has attempted except those for which the student has received a grade of W.

Grade of I: The grade of I is assigned at the discretion of the instructor when a student who is otherwise passing has not completed all the work in the course. The missing work must be completed during the following term unless special arrangements are made through the Office of the Registrar. If the I is not removed during the specified time, a grade of F is automatically assigned.

Grade of W: The grade of W will be given for a course which is dropped on or before the last day to drop a course without failure. Courses given a grade of W do not count as hours attempted. If a student drops a course after the last day to drop a course without failure he will be given the grade of F unless the administrative committee feels that circumstances do not justify this penalty, in which case the grade of W will be given. If a student drops a course unofficially, he will be given a grade of F.

REQUIREMENTS FOR GRADUATION

A minimum of 60 semester hours of work is required for graduation, of which 30 must be earned at Charlotte College. To graduate a student must have a quality point ratio of at least 2.0. Upon the satisfactory completion of any of the prescribed curricula listed in the following pages, a student is awarded a diploma and the title of "Associate in Arts."

TRANSCRIPTS OF RECORDS

Upon request of the student, academic credits earned in Charlotte College will be transferred to any college or university.

Each student is entitled to one official transcript of his work, provided that all accounts with the college have been settled satisfactorily. A student requesting an additional transcript should enclose one dollar for this service.

EXPENSES

TUITION: The tuition fee is six dollars per semester hour for residents of North Carolina and twelve dollars per semester hour for non-residents. The trustees have ruled that a student whose supporting parent (or guardian) has not been a *bona fide* resident of the State of North Carolina for more than six months immediately preceding the day of his first enrollment in the institution shall be termed an out-of-state student with the following exceptions:

(1) A student over twenty-one years of age at the time of his first matriculation who has resided in North Carolina for more than one year other than by virtue of attendance at another college or on temporary military assignment, preceding the day of his first enrollment.

(2) A student whose supporting parent is a regu-

lar employee of the Federal Government stationed in the State of North Carolina.

(3) A student whose supporting parent is a regular employee of the Federal Government who is employed outside of the State but who through law is permitted to retain his North Carolina citizenship.

The furnishing of incomplete or incorrect information regarding residence may result in the student's dismissal from college. The Registration Office determines each student's residence status on the basis of existing information and interpretation of regulations.

Registration Fee: A registration fee of ten dollars will be charged each semester.

Late Registration Fee: A fee of five dollars will be charged for students registering after the designated registration day each semester.

Laboratory Fees: Each student taking a laboratory course must pay in addition to tuition, a fee to help cover the cost of conducting laboratory experiments. This fee will vary with the course taken.

The following courses carry a laboratory fee of five dollars:

- Botany 111
- Botany 141
- Bus. Ad. 101
- Bus. Ad. 102
- Bus. Ad. 201
- Bus. Ad. 202
- Bus. Ad. 203
- Bus. Ad. 206
- Bus. Ad. 207
- Geography 138
- Geology 111
- Geology 241
- Geology 242
- Physics 120
- Physics 201
- Physics 202
- Physics 211
- Physics 212
- Psychology 101
- Zoology 111
- Zoology 141

The following courses carry a laboratory fee of ten dollars:

- Chemistry 111
- Chemistry 112
- Chemistry 241
- Chemistry 242

The following courses carry a laboratory fee of fifteen dollars:

C. E. 201
C. E. 202
M. E. 101
M. E. 102
E. E. 201
E. E. 202

Student Activity Fee: The basic student activity fee is six dollars each semester; it is required of each student. This fee entitles the student to admission to all college athletic contests, to all dramatic productions, to all other entertainments sponsored by the college, and to a subscription to the college newspaper. In addition, there is a fee of five dollars charged each student upon his entrance in the fall semester; this fee entitles him to a copy of the yearbook.

Graduation Fee: All members of the graduating class will pay the graduation fee of eight dollars at the beginning of the spring semester of the year in which they expect to graduate. This fee covers the cost of the diploma and the rental of cap and gown.

Payment of Fees: All charges of tuition and fees are due and payable on the day of registration. Checks and money orders should be payable to Charlotte College.

Refunds: The registration fee is not refundable.

In case of withdrawal from college during the semester, the following refund schedule applies, counting from the last scheduled day of registration, but not including the last day:

First 10 days	80% refund
Second 10 days	60% refund
Third 10 days	40% refund
Fourth 10 days	20% refund
After 40 days	0% refund

Other Expenses: The estimated average cost of books and supplies per semester is forty dollars except that an additional fifty-five dollars is needed by entering engineering students to provide for drawing instruments, a slide rule, and supplies; this expense does not recur.

Estimated Total Expenses: The estimated total expenses for an academic year are as follows*:

	Fall Semester	**Spring Semester**	**Total**
Tuition for 15 semester hours per term	$ 90.00	$ 90.00	$180.00
Registration Fee	10.00	10.00	20.00
Student Activity Fees	11.00	6.00	17.00
Total	$111.00	$106.00	$217.00

In addition, there are some courses which require laboratory fees ranging from $5.00 to $15.00.

Books and Supplies	$ 40.00	$ 40.00	$ 80.00
Slide rule, drawing instruments (Engineering students only)	50.00		50.00

* Approximately $25.00 more per semester for engineering students

FINANCIAL ASSISTANCE

STUDENT LOAN FUNDS

The Charlotte College Student Loan Fund was established in 1958 to provide funds which students might borrow for short-term emergencies. Under the terms of the loan fund, students may borrow up to $25.00 for 30 days. There is a 25c service charge, but no interest on the loan.

The National Defense Student Loan Fund is also available at Charlotte College. Full-time students in need of financial assistance may borrow up to $1,000.00 per year for college-related expenses such as tuition, fees, books, and transportation. The interest rate is 3%, but there is no interest while the student is enrolled as a full-time college student. Loans must be repaid within ten years.

Application blanks and details on loan funds may be obtained from the Chairman of the Scholarship Committee, P. O. Box 20428, Charlotte, North Carolina.

SCHOLARSHIPS AND GRANTS

Friends of Charlotte College provide scholarships and grants ranging from $50.00 to $275.00 for worthy students to attend college.

In awarding scholarships and grants the following factors are considered:

1. High school record
2. Scholastic potential
3. Financial need
4. Recommendations
5. Participation in school and community activities

Applications should be submitted before February 1 for financial aid for the next academic year. However, applications will be considered throughout the year if funds are available.

Applications for financial aid and further information or counseling in financial matters may be obtained from the Chairman of the Scholarship Committee, P. O. Box #20428, Charlotte, North Carolina.

SCHOLARSHIP DONORS

Some of the organizations and individuals who provide scholarships are the following:

Altrusa Club of Charlotte
Alumni of Charlotte College
American Business Women's Association
Charlotte Association of Insurance Women
Charlotte Board of Realtors
Charlotte Chapter, National Association of Accountants
Charlotte Civitan Club
Charlotte News
Charlotte Observer

Charlotte Optimist Club
Corporate Insurers
Daughters of the American Revolution,
    Mecklenburg Chapter
Easterby and Mumaw, Inc.
Fidelis Class, Myers Park Baptist Church
Harrison-Wright
Drs. Audrey and Cecil Hawes
Jefferson Standard Foundation
Mecklenburg Kiwanis Club
North Carolina Professional Engineers' Society,
    Piedmont Chapter
North Carolina Professional Engineers' Society,
    Piedmont Chapter, Ladies' Auxiliary
Panhellenic Congress of Charlotte
Pepsi Cola
Phi Theta Kappa, Charlotte College Chapter
Piedmont Foundation
Pilot Club
Professional Construction Estimators' Association
Quota Club
Sigma Lambda Chi, Charlotte College
Earl Whitton
Mr. and Mrs. J. L. Winningham

Scholarships have been established in honor of the following:

Herbert Conner
E. H. Garinger
Harry P. Harding
John A. McRae, Sr.
Cecil Prince
Harry Shuford
Corine Rowe Smith
B. O. Vannott

AWARDS

THE BONNIE E. CONE AWARD is given annually to a freshman student who has demonstrated fine college spirit and made a significant contribution to college life.

THE BILL MITCHELL AWARD: Two members of the graduating class who have shown outstanding qualities of scholarship and leadership and maintained an attitude of unselfish interest in the welfare of their fellow students and of the college as a whole are selected for the award.

THE CHEMISTRY AWARD is given annually to the student with the highest scholastic average in freshman chemistry.

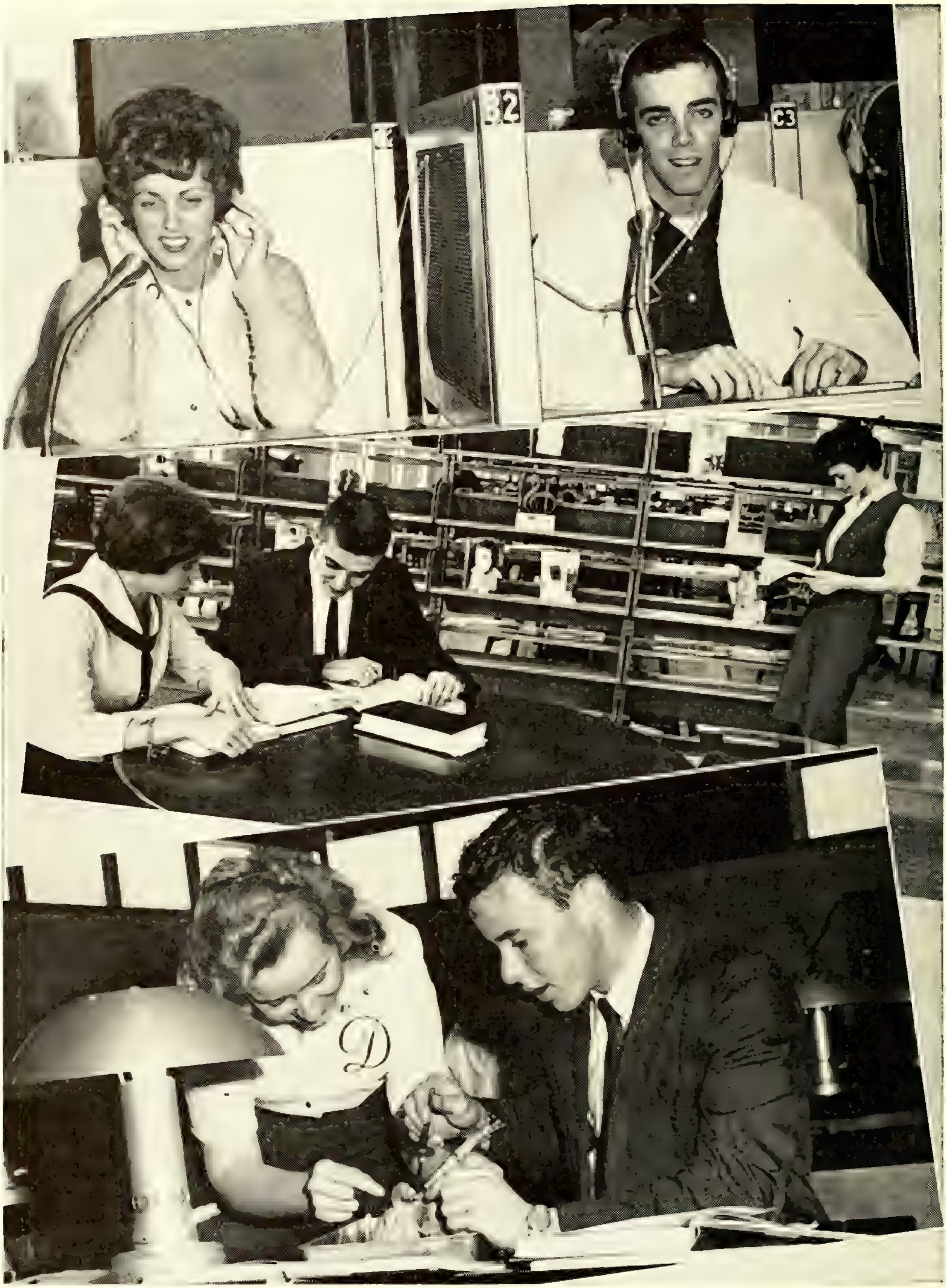
THE MATHEMATICS AWARD is given annually to the student with the highest scholastic average in freshman engineering mathematics.

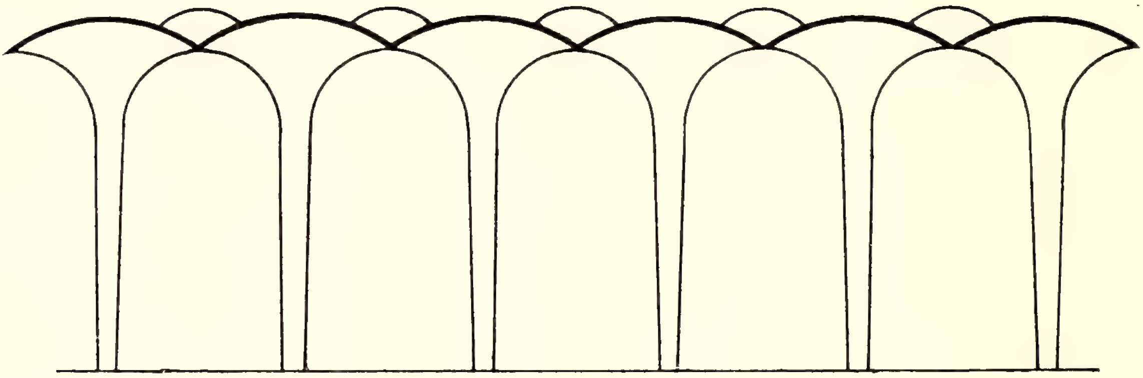
THE PHYSICS AWARD is given annually to the sophomore with the highest scholastic average in engineering physics.

HONORS

DEAN'S LIST: The Dean's List is a record of all students whose academic record merits special recognition from the college. In order to qualify for the Dean's List, a student must take a full program of five subjects (at least fifteen semester hours of work) and maintain an average of B or better, with no grade lower than a C.

COMMENCEMENT MARSHALS: The rising sophomores who have maintained the highest scholastic average during their freshman year are honored by being named Commencement Marshals. The marshal who has the best academic record is designated chief marshal.


B2
C3



PROGRAMS OF STUDY

The programs of study contained in the following pages are classified as *University Parallel* or *Terminal.* Curricula in the former category are intended for students who plan to transfer to a university or senior college after completion of lower division work at Charlotte College. Those in the second category are intended for students who do not plan to enter senior institutions, but wish to gain the best possible training in specific fields during two years of college and to enter their chosen vocations on graduation from Charlotte College.

UNIVERSITY PARALLEL CURRICULA

Any of the academic courses offered by the college, if properly selected, should be accepted for transfer to a senior institution and should count, without loss of credit hours, toward a bachelor's degree. But a student who expects to continue his college career or to enter a professional school after leaving junior college should consult the catalog of the institution he expects to attend and select his courses accordingly. Although the registrar or a counselor will gladly assist the student in choosing the courses that will assure junior standing in the senior institution, the final responsibility for selecting the proper courses must rest with the student.

AGRICULTURAL SCIENCE (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
Mathematics 106-107 (Algebra and Trigonometry)	
OR	
*Mathematics 101-102 (Freshman Engineering Mathematics)	6-9
History 101-102 (Development of Civilization)	6
Botany 111 (Introductory Plant Biology)	4
Zoology 111 (Introductory Animal Biology)	4
Choose six hours:	
Psychology 101 (Introduction)	
English 109 (Public Speaking)	
Philosophy 101 (Introduction)	
Political Science 201-202 (Government of U. S.)	6

SECOND YEAR

History 201-202 (American History)	6
Chemistry 111-112 (General Chemistry)	
OR	
Physics 211-212 (General Physics)	8-10
English 201-202 (English Literature)	6
Choose twelve hours:	
Mathematics 201-202 (Sophomore Engineering Mathematics)	
Business Administration 101 (Accounting)	
Business Administration 105 (Business Law)	
Geology 241 (Physical)	
Political Science 201-202 (Government of U. S.)	12

BUSINESS ADMINISTRATION (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6

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* A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

†Mathematics 106-107 (Algebra and Trigonometry)
OR
†Mathematics 101-102 (Freshman Engineering Mathematics) 6-9

Choose two courses:
Botany 111 (Plant Biology)
Zoology 111 (Animal Biology)
Geography 138 (Introduction to Geography) 8

**Choose one sequence*:
French 201-202 (Intermediate French)
Spanish 201-202 (Intermediate Spanish)
German 201-202 (Intermediate German) 6

SECOND YEAR

English 201-202 (English Literature) 6
Economics 201-202 (General Economics) 6
Political Science 201 (Government of the U. S.) 3

Choose one:
French 221 (French Literature)
Spanish 221 (Spanish Literature)
German 221 (German Literature)
Philosophy 101 (Introduction to Philosophy) 3

Choose one course:
History 201-202 (American History)
History 231-232 (English History)
Philosophy 101-102 (Introduction to Philosophy)
Political Science 202 (Principles and Problems of U. S. Government)
Psychology 101 (Introduction to Psychology) 3

***Choose one sequence*:
Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical)

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† A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

* The elementary course, 101-102, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language courses 101-102 and 201-202 will fulfill the requirement of language 201-202 and either 221 or Philosophy 101.

** A student must have two courses in natural sciences or one course in a natural science and one course in mathematics. These courses must include one course in a physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

Physics 211-212 (General Physics)	
Mathematics 201-202 (Sophomore Engineering Mathematics)	8-10

EDUCATION - ELEMENTARY (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
†Mathematics 106-107 (Algebra and Trigonometry)	
OR	
†Mathematics 101-102 (Freshman Engineering Mathematics)	6-9
Botany 111 (Plant Biology) or Zoology 111 (Animal Biology)	4
**Choose one sequence:*	
French 201-202 (Intermediate French)	
Spanish 201-202 (Intermediate Spanish)	
German 201-202 (Intermediate German)	6
Geography 138 (Introduction to Geography)	4

Second Year

English 201-202 (English Literature)	6
History 201-202 (American History)	6
French 221 (French Literature) or Spanish 221 (Spanish Literature)	3
Choose any six hours:	
Economics 201-202 (General Economics)	
Education 101 (Introduction to Education)	
Philosophy 101-102 (Introduction and Development)	
Political Science 201 (U. S. Government)	
Sociology 101-102 (Introduction and Social Problems)	6

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† A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

* The elementary course, 101-102, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language courses 101-102 and 201-202 will fulfill the requirement of language 201-202 and either 221 or Philosophy 101.

Choose one sequence:

Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical Geology)
Physics 211-212 (General Physics)
Mathematics 201-202 (Analytical Geometry and Calculus) 8-10

EDUCATION - SECONDARY (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
†Mathematics 106-107 (Algebra and Trigonometry) OR †Mathematics 101-102 (Freshman Engineering Mathematics)	6-9

Choose one sequence:

Chemistry 111-112 (General Chemistry)
Physics 211-212 (General Physics) 8-10

**Choose one sequence*:

French 201-202 (Intermediate French)
Spanish 201-202 (Intermediate Spanish)
German 201-202 (Intermediate German) 6

SECOND YEAR

English 201-202 (English Literature)	6
French 221 (French Literature) or Spanish 221 (Spanish Literature)	3

Choose eight hours:

Geology 241-242 (Physical and Historical Geology)

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† A student who plans to continue mathematics beyond the level of plane trigonometry should elect Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite to Mathematics 201.

* The elementary course, 101-102, may not be counted as part of the minimum requirements. However, when the foreign language taken in college is different from that presented to satisfy entrance requirements, such new language courses 101-102 and 201-202 will fulfill the requirement of language 201-202 and either 221 or Philosophy 101.

**Botany 111 or Botany 141
**Zoology 111 or Zoology 141
Geography 138 (Introduction to Geography)
Mathematics 201-202 (Analytical Geometry and Calculus) 8-9

Choose twelve hours:

Economics 201-202 (General Economics)
Education 101 (Introduction to Education)
History 201-202 (American History)
History 231-232 (English History)
Philosophy 101-102 (Introduction and Development)
Political Science 201, 202, 211, 212 (U. S. Government)
Sociology 101-102 (Introduction and Social Problems) 12

ENGINEERING CURRICULA

In cooperation with the Engineering School of North Carolina State College, Charlotte College has developed a correlated program for the first two years of engineering. After completing the two years at Charlotte College, the student with C or better average may transfer to North Carolina State College to complete the final two years of the undergraduate program.

In all branches of engineering the requirements for the first year are the same. In the second year the choice of electives must be according to the chosen field. The detailed course of study for the last two years can be obtained from the State College catalog.

If a student plans to transfer to an engineering school other than North Carolina State College, the registrar will assist in planning his curriculum accordingly.

From the engineering curricula suggested below a student from another field of engineering may also complete the requirements for junior standing at North Carolina State College.

**Students who wish to take further work in botany and zoology should take Botany 111 and Zoology 111 in place of History 101-102 in the first year. Botany 141 and Zoology 141 may then be elected in the sophomore year.

CHEMICAL ENGINEERING (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

SECOND YEAR

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
Chemistry 241-242 (Quantitative Analysis)	8
Choose twelve hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	12

CIVIL ENGINEERING (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

SECOND YEAR

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
C. E. 201-202 (Surveying)	8
E. M. 211 (Statics)	3
Choose nine hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	9

ELECTRICAL ENGINEERING (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

Second Year

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
E. E. 201-202 (Fields and Circuits)	8
Choose twelve hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	12

GEOLOGICAL ENGINEERING (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

Second Year

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
Chemistry 241-242 (Quantitative Analysis)	8
Geology 241-242 (Physical and Historical)	8
Choose six hours:	
Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	6

MECHANICAL ENGINEERING (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 101-102 (Engineering Mathematics)	9
Chemistry 111-112 (General Chemistry)	10
M. E. 101-102 (Engineering Graphics)	4

Second Year

Mathematics 201-202 (Engineering Mathematics)	8
Physics 201-202 (Engineering Physics)	10
E. M. 211 (Statics)	3

Choose fifteen hours:

Economics 201-202 (General Economics)	
English 201-202 (English Literature)	
History 201-202 (American History)	
Political Science 201 (U. S. Government)	
Psychology 101 (Introduction)	15

JOURNALISM (University Parallel)

Students who intend to major in Journalism are advised to take the Liberal Arts curriculum.

LIBERAL ARTS (University Parallel)

First Year

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
†Mathematics 106-107 (Algebra and Trigonometry) OR †Mathematics 101-102 (Freshman Engineering Mathematics)	6-9

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† A student who plans to continue mathematics beyond the level of plane trigonometry should take Mathematics 101-102 rather than Mathematics 106 107. Mathematics 102 is a prerequisite for Mathematics 201.

Choose one sequence:
Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical)
Physics 211-212 (General Physics)
Botany 111 (Plant Biology), Zoology 111 (Animal Biology), Geography 138 (Introduction to Geography) 8-10

**Choose one sequence*:
French 201-202 (Intermediate French)
Spanish 201-202 (Intermediate Spanish)
German 201-202 (Intermediate German) 6

SECOND YEAR

English 201-202 (English Literature) 6

Choose one sequence:
French 221-222 (French Literature)
Spanish 221-222 (Spanish Literature)
German 221-222 (German Literature) 6

Choose twelve hours:
Economics 201-202 (General Economics)
History 201-202 (American History)
History 231-232 (English History)
Philosophy 101-102 (Introduction and Development)
Political Science 201, 202, 211, 212 (U. S. Government)
§Psychology 101 (Introduction)
Sociology 101-102 (Introduction and Social Problems) 12

***Choose one sequence*:
Chemistry 111-112 (General Chemistry)
Geology 241-242 (Physical and Historical)
Physics 211-212 (General Physics)
Mathematics 201-202 (Analytical Geometry and Calculus) 8-10

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* A student placed in foreign language course number 101 may meet the requirements with courses 101-102 and 201-202, provided he has no entrance deficiency in foreign language.

§ Not for psychology majors.

**A student must have two courses in natural sciences or one course in a natural science and one course in mathematics. These courses must include one course in a physical science (chemistry, physics, geology, geography) and at least one course in a biological science (botany, zoology).

PRE-LAW (University Parallel)

Students electing the pre-law course may do so in one of the following ways:

(1) Take the regular liberal arts course.
(2) Take the regular business administration course.

PRE-MEDICINE (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
Botany 111 (Introductory Plant Biology)	4
Zoology 111 (Introductory Animal Biology)	4
Mathematics 106-107 (Algebra and Trigonometry)	6
Chemistry 111-112 (General Chemistry)	10
**Choose one sequence*:	
French 201-202 (Intermediate French)	
Spanish 201-202 (Intermediate Spanish)	
German 201-202 (Intermediate German)	6

SECOND YEAR

English 201-202 (English Literature)	6
Physics 211-212 (General Physics)	8
Chemistry 241-242 (Quantitative Analysis)	8
Botany 141 (Plant Biology)	4
Zoology 141 (Animal Biology)	4
Choose one sequence:	
French 221-222 (French Literature)	
Spanish 221-222 (Spanish Literature)	
German 221-222 (German Literature)	6

PRE-OPTOMETRY (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
Botany 111 (Introductory Plant Biology)	4
Zoology 111 (Introductory Animal Biology)	4
Mathematics 106-107 (Algebra and Trigonometry)	6

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* A student placed in language 101 may meet the requirements with courses 101-102 and 201-202, provided he has no entrance deficiency in foreign language.

Chemistry 111-112 (General Chemistry)	10
**Choose one*:	
French 201-202 (Intermediate French)	
Spanish 201-202 (Intermediate Spanish)	
German 201-202 (Intermediate German)	6

SECOND YEAR

English 201-202 (English Literature)	6
Physics 211-212 (General Physics)	8
Zoology 141 (Animal Biology)	4
Psychology 101 (Introduction to Psychology)	3
Choose six hours:	
Botany 141 (Plant Biology)	
History 101-102 (Development of Civilization)	
English 109 (Public Speaking)	
Political Science 201 (U. S. Government)	6
Choose one sequence:	
French 221-222 (French Literature)	
Spanish 221-222 (Spanish Literature)	
German 221-222 (German Literature)	6

PRE-PHARMACY (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Mathematics 106-107 (Algebra and Trigonometry)	6
Chemistry 111-112 (General Chemistry)	10
**Choose one sequence*:	
French 201-202 (Intermediate French)	
Spanish 201-202 (Intermediate Spanish)	
German 201-202 (Intermediate German)	6

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*A student placed in foreign language course number 101 may meet the requirements with courses 101-102 and 201-202, provided he has no entrance deficiency in foreign language.

SCIENCE (University Parallel)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
†Mathematics 106-107 (Algebra and Trigonometry)	
OR	
†Mathematics 101-102 (Freshman Engineering Mathematics)	6-9
Chemistry 111-112 (General Chemistry)	10
*German 201-202 (Intermediate German)	6

SECOND YEAR

English 201-202 (English Literature)	6
German 221-222 (German Literature)	6
**Physics 211-212 (General Physics)	8
**Mathematics 201-202 (Analytical Geometry and Calculus)	8
Choose According to Major:	
Chemistry 241-242 (Quantitative Analysis)	
Geology 241-242 (Physical and Historical)	
Geography 138 (Introduction to Geography)	
History 201-202 (American History)	6-12

TERMINAL CURRICULA

The terminal curricula are intended primarily for students who expect to complete their college program in two years or less and go directly into employment. However, some work in each program is transferable to senior colleges so that a person can transfer from a terminal curriculum to a university parellel curriculum without losing all of his credits.

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† A student who plans to continue mathematics beyond the level of plane trigonometry should take Mathematics 101-102 rather than Mathematics 106-107. Mathematics 102 is a prerequisite for Mathematics 201.

* A student may meet the requirements with courses 101-102, provided he has no entrance deficiencies in foreign language.

** Not for Geology Majors.

BUSINESS ADMINISTRATION AND ACCOUNTING (Terminal)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Business Administration 101-102 (Accounting Principles)	8
Mathematics 111 (Business Mathematics)	3
English 121 (Business English)	3
†Electives	6

SECOND YEAR

English 201-202 (English Literature)	6
Economics 201-202 (General Economics)	6
Political Science 201 (U. S. Government)	3
Business Administration 105 (Business Law)	3
Electives	12

GENERAL BUSINESS AND SECRETARIAL SCIENCE COURSE (Terminal)

FIRST YEAR

English 101-102 (Communications Skills)	6
History 101-102 (Development of Civilization)	6
Business Education 105-106 (Beginning Typewriting)	6
Business Education 107-108 (Beginning Shorthand)	6
Business Administration 101-102 (Accounting Principles)	8

SECOND YEAR

English 121 (Business English)	3
Business Education 205-206 (Advanced Typewriting)	6
Business Education 207-208 (Advanced Dictation)	6
Business Education 232 (Office Machines)	3
Business Education 233 (Office Practice)	3
Electives	12

†Typewriting required of students not already proficient.

DESCRIPTION OF COURSES

Unless otherwise specified, courses meet one hour of lecture per week for each semester hour of credit given. Numbers in parentheses refer to number of semester hours' credit each course carries.

BOTANY

BOTANY 111. (4) INTRODUCTORY PLANT BIOLOGY

The study of plants in relationship to their habitat, distribution, and significance to animals and to human beings. The elements of horticulture, especially in relation to home gardening and landscaping, are also stressed. Plant inheritance and breeding are emphasized.

Three lecture and three laboratory hours a week.

BOTANY 141. (4) PLANT BIOLOGY

Prerequisite: Botany 111.

The major plant groups, with selected life histories, and the study of living field specimens are emphasized in this course. Plant anatomy, histology, and physiology also take up a considerable portion of the class and laboratory time.

Three lecture and three laboratory hours a week with two or more one-day field trips to be arranged.

BUSINESS ADMINISTRATION

BUSINESS ADMINISTRATION 101. (4) INTRODUCTION TO ACCOUNTING

Topics covered include the theory of debits and credits and the construction of the trial balance, work sheet, profit and loss statement, and balance sheet. The problems and materials used are characteristic of the single proprietorship form of business organization.

Three lecture and two laboratory hours a week.

BUSINESS ADMINISTRATION 102. (4) ACCOUNTING PRINCIPLES
Prerequisite: *Business Administration* 101.

The fundamental principles of accounting are reemphasized and special attention is given to the partnership form of business organization, both from the point of view of the nature of the partnership and from the point of view of the accounting problems peculiar to the partnership form of organization. The corporation is considered and attention is given to the general characteristics and to the fundamental problems of corporation accounting.

Three lecture and two laboratory hours a week.

BUSINESS ADMINISTRATION 103. (3) PRINCIPLES OF ADVERTISING

A survey of all forms of advertising. Principles of layout; copywriting; production methods; campaign preparation; media selection.

BUSINESS ADMINISTRATION 104. (2) SELLING

Fundamental principles of wholesale and retail selling. Each student selects a sales proposition to analyze and sell to a qualified customer.

BUSINESS ADMINISTRATION 105. (3) BUSINESS LAW

A study of the main principles of law which govern the daily conduct of business with emphasis on contracts and agency.

BUSINESS ADMINISTRATION 201. (3) INTERMEDIATE ACCOUNTING I
Prerequisite: *Business Administration* 101, 102.

This course involves a review of accounting procedures and consideration of alternative practices with a more detailed study of basic concepts and their application. A study is made of comparative statements and analytical percents and ratios; analysis of working capital; accounting pertaining to capital structure of corporations.

Two lecture, two laboratory hours per week.

BUSINESS ADMINISTRATION 202. (3) INTERMEDIATE ACCOUNTING II
Prerequisite: *Business Administration* 201.

This course includes a study of the classification and analysis of liabilities; application of accounting principles to income determination and valuation; correction of profits of prior periods, statement of sources and application of funds.

Two lecture, two laboratory hours per week.

BUSINESS ADMINISTRATION 203. (3) FEDERAL AND STATE INCOME TAXATION FOR INDIVIDUALS
Prerequisite: *Business Administration* 101, 102.

A study of federal and state income tax laws and the preparation of individual income tax returns. Lab work consists of problems and preparation of tax returns.

Two lecture, two laboratory hours per week.

BUSINESS ADMINISTRATION 204. (3) SALES MANAGEMENT

Organization of a sales department; assignment of responsibilities; techniques of selecting the sales force; equipping and training salesmen; territories, routes, compensation; methods of stimulating salesmen; methods of sales control and sales promotion; relation of sales manager to other department heads in an organization.

BUSINESS ADMINISTRATION 206. (3) FEDERAL AND STATE INCOME TAXATION

Prerequisite: *Business Administration* 101, 102.

A study of income tax laws and the preparation of returns for partnerships, corporations, estates, and trusts.

Two lecture, two laboratory hours per week.

BUSINESS ADMINISTRATION 207. (4) COST ACCOUNTING

Prerequisite: *Business Administration* 101, 102.

An introduction to cost procedure and systems. Emphasis is on job order and process costs. Laboratory work includes practice set for each. A brief study of standard cost is included.

Three lecture and two laboratory hours per week.

BUSINESS ADMINISTRATION 208. (3) PUBLIC RELATIONS

A study of public relations principles and practices with special attention to its tools, media, responsibilities, and potentialities.

BUSINESS ADMINISTRATION 225. (3) OFFICE SYSTEMS AND AUTOMATION

Basic areas are studied such as systems analysis, basic business machines, flow-charting office work, introduction to integrated data processing.

BUSINESS ADMINISTRATION 226. (3) PRINCIPLES OF AUTOMATION AND OPERATIONS RESEARCH

A study of IDP systems available, common language media, tools of operations research and examples, programming on two computers.

BUSINESS ADMINISTRATION 231. (3) PERSONNEL MANAGEMENT

This course provides job instruction training to improve the supervisor's efficiency in training personnel; supervisory techniques to help the supervisor develop his ability to lead his personnel more effectively; planned discussion and demonstrations of tested techniques to be used in solving problems arising from human relations; employment techniques to assist personnel manager in interviewing, testing, making job analyses, and keeping personnel records.

BUSINESS EDUCATION

BUSINESS EDUCATION 105-106. (3-3) BEGINNING TYPEWRITING

The work in beginning typewriting includes learning the keyboard, operating the parts of the machine, care of the machine, writing simple letters, simple tabulation, continuity writing. In this course more stress is given to accuracy than to speed.

BUSINESS EDUCATION 107-108. (3-3) BEGINNING SHORTHAND

Dictation is begun early in the course, stressing accuracy and form in shorthand penmanship. A consistent speed of sixty words a minute on new material with ninety-five per cent accuracy is required.

BUSINESS EDUCATION 205-206. (3-3) ADVANCED TYPEWRITING

The work includes study of different styles of business letters, manuscript copy, making carbon copies, tabulation, business reports, legal documents, effective display of typed matter. At the end of this course the students are expected to do straight copy at fifty-five words per minute with a minimum of errors.

BUSINESS EDUCATION 207-208. (3-3) ADVANCED DICTATION

The course consists of dictation and transcription with a thorough review of shorthand theory. Accuracy, speed, neatness, and comprehension are developed. Intensive drill is given in the production of mailable transcripts. A minimum dictation rate of one hundred words per minute must be consistently maintained with a high percentage of accuracy.

BUSINESS EDUCATION 232. (3) OFFICE MACHINES

A fair degree of skill is developed in the use of machines such as dictating machines, adding and calculating machines, duplicating machines, filing equipment, and miscellaneous.

BUSINESS EDUCATION 233. (3) OFFICE PRACTICE

Prerequisite: *Business Education* 105-106 *and Business Education* 107-108.

An effort is made to observe and direct the student in developing those characteristics and personality traits which are desirable and essential in the business office. The main phases of study are office behavior, office methods and procedure, and civil service training. Whenever possible actual office situations are created so that the student is trained not in theory alone, but in practice.

CHEMISTRY

CHEMISTRY 111-112. (5-5) GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS

Prerequisite or co-requisite: *Mathematics* 106 *or Mathematics* 101.

The first six months, general chemistry: fundamental principles, theories, and laws of chemistry; occurrence, preparation, properties, and uses of selected elements and their compounds; equilibrium, oxidation and reduction; metallurgy; introduction to organic and nuclear chemistry. The last three months, qualitative analysis: reactions of electrolytes in solution, chemical equilibrium, semi-microanalytical techniques, identification of common cations and anions; eight unknowns.

Three lecture and four laboratory hours a week.

CHEMISTRY 241. (4) QUANTITATIVE VOLUMETRIC ANALYSIS
Prerequisite: *Chemistry* 112.

Volumetric analyses of potassium hydrogen phthalate by alkalimetry, soda ash by acidimetry, iron and calcium by permanganate redox, antimony by iodimetry, chloride by Volhard method, and nitrogen by Kjeldahl method; seven unknowns.

Two lectures and six laboratory hours a week.

CHEMISTRY 242. (4) QUANTITATIVE GRAVIMETRIC AND INSTRUMENTAL ANALYSIS
Prerequisite: *Chemistry* 241.
Prerequisite or co-requisite: *Physics* 212 *or Physics* 202.

Gravimetric analyses of chloride, iron, and sulfur; analysis of copper by electrodeposition; analysis of manganese in steel by visual and electrical colorimetry; determination of iron by the classical potentiometric method; titration of phosphoric acid by the pH meter; seven unknowns.

Two lecture and six laboratory hours a week.

CIVIL ENGINEERING

CIVIL ENGINEERING 201-202. (3-3) SURVEYING I, II
Prerequisite: *Mathematics* 101.

Elements of plane surveying including taping, transit, level, stadia, plane table, topographic surveying and mapping, care and adjustment of instruments; construction surveys; earthwork computations; route surveys and design; simple, compound, parabolic, and spiral curves; chainage equations.

One lecture, two problem, and three laboratory hours a week.

ECONOMICS

ECONOMICS 101. (3) BUSINESS ECONOMICS

This course covers the economics of distribution, an examination of marketing channels, sources and use of business publications and other materials as applied to the solution of distribution problems.

ECONOMICS 201-202. (3-3) GENERAL ECONOMICS

The organization and underlying principles of modern economic life, with emphasis upon the operation of the private enterprise system. The production, exchange, distribution, and consumption of wealth, the allocation of resources, and auxiliary economic problems.

EDUCATION

EDUCATION 101. (3) INTRODUCTION TO THE STUDY OF EDUCATION

This is an orientation course designed to help develop an understanding of the philosophy and procedures of public education.

ELECTRICAL ENGINEERING

ELECTRICAL ENGINEERING 201-202. (4-4) ELEMENTARY FIELDS AND CIRCUITS

Co-requisites: *Mathematics* 201, *Physics* 201.
Required of sophomores in electrical engineering.

Fundamental laws of electric circuits, magnetic circuits, electric fields, and magnetic fields. Introduction to steady-state alternating-current circuit theory.

Two lecture, two problem, and three laboratory hours a week.

ENGLISH

ENGLISH 80. (0) READING IMPROVEMENT LABORATORY

A course enabling the individual to obtain a firm grasp of the skills of more efficient reading. Lecture-demonstrations are combined with actual laboratory work in which each student participates in electrically accelerated reading and other modern techniques.

ENGLISH 90. (0) ENGLISH LABORATORY

A comprehensive review of grammar and practice in writing and reading open to all students. Required of all students whose English Placement Test and/or College Board scores indicate a need. Students may be assigned to English 90 at the discretion of their instructors in English 101. A student assigned to English 90 must receive a passing grade before being enrolled in English 101.

ENGLISH 101-102. (3-3) COMMUNICATIONS SKILLS

Required of all freshmen. Intensive practice in composition, with review in grammar and usage; reading and writing of basic types of communication; directed supplementary reading; written and oral reports.

ENGLISH 111S. (3) COMMUNICATIONS SKILLS

Accelerated Freshman Composition for students whose English Placement and College Board scores indicate superior ability in reading and composition.

ENGLISH 112S. (3) COMMUNICATIONS SKILLS

Accelerated Freshman Composition for selected students. An intensive program in reading and composition for students especially recommended by instructors of 111S.

ENGLISH 109. (3) PUBLIC SPEAKING

A study of the basic fundamentals of public speaking and delivery of original speeches.

ENGLISH 110. (2) TECHNICAL WRITING

A study of the fundamentals of technical writing style and mechanics with practice in preparing reports of the various types most likely to be used on the job by technicians.

ENGLISH 121. (3) BUSINESS ENGLISH

A study of the fundamentals of grammar with specific application to business documents and other business papers, the editing of business materials, proofreading, and corrections.

ENGLISH 201-202. (3-3) ENGLISH LITERATURE

Prerequisite: *English* 101-102.

An intensive study of the masterpieces of English literature in chronological sequence.

ENGLISH 203. (3) AMERICAN LITERATURE

Prerequisite: *English* 101, 102, 201.

A sophomore elective. Selections from American Literature from 1850 to present.

FRENCH

FRENCH 101-102. (3-3) ELEMENTARY FRENCH

Study of the fundamentals of grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Graded readings.

Required additional individual language laboratory drill: 1 hour.

FRENCH 201-202. (3-3) INTERMEDIATE FRENCH

Prerequisite: *French* 101-102 *or* 2 *units of high school French.*

France and the French civilization. Graded readings in French literature. Review of the essentials of grammar. Collateral readings. Conducted in French as much as possible.

Required individual language laboratory drill: 1 hour.

FRENCH 203. (3) PRACTICAL FRENCH COMPOSITION AND CONVERSATION

Prerequisite: *French* 101-102 *or the equivalent.*

Required individual language laboratory drill: 1 hour.

FRENCH 221-222. (3-3) CLASSICAL AND CONTEMPORARY FRENCH LITERATURE

Prerequisite: *French* 201 *and* 202 *or the equivalent.*

Conducted in French as much as possible. Collateral readings. Required individual language laboratory drill: 1 hour.

GEOGRAPHY

GEOGRAPHY 138. (4) GENERAL GEOGRAPHY

This course is organized on a regional basis and deals with the various peoples of the earth and how they and their activities are influenced by topography, climate, and natural resources.

Three lecture and two laboratory hours a week.

GEOLOGY

GEOLOGY 111. (4) ELEMENTS OF GEOLOGY

Combines both historical and physical geology in one course and is thus intended for general information and not for students wishing to major in geology or allied sciences.

Three lecture and two laboratory hours a week.

GEOLOGY 241. (4) PHYSICAL GEOLOGY

The nature and occurrence of rocks and minerals, together with crustal features of the earth's surface. This course goes into more detail and places greater emphasis on earth phenomena than does Geology 111.

Three lecture and two laboratory hours a week with two or more one-day field trips, to be arranged.

GEOLOGY 242. (4) HISTORICAL GEOLOGY

Emphasis in this course is on the stratigraphic and fossil history of the earth as found in the earth's crust together with the necessary information on both plant and animal kingdoms to trace the evolution of life down through the ages.

Three lecture and two laboratory hours a week with two or more one-day field trips, to be arranged.

GERMAN

GERMAN 101-102. (3-3) ELEMENTARY GERMAN

Study of the fundamentals of grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Graded readings.

Required additional individual language laboratory drill: 1 hour.

GERMAN 201-202. (3-3) INTERMEDIATE GERMAN

Prerequisite: German 101-102 *or* 2 *units in high school German.*

Germany and the German civilization. Graded readings in German literature.

Review of the essentials of grammar. Collateral readings. Conducted in German as much as possible.

Required individual language laboratory drill: 1 hour.

GERMAN 221-222. (3-3) GERMAN LITERATURE

Prerequisite: German 201-202 *or the equivalent.*

Conducted in German as much as possible. Collateral readings.

Required individual language laboratory drill: 1 hour.

HISTORY

HISTORY 101. (3) DEVELOPMENT OF CIVILIZATION

A survey of the history of man from the earliest times to the eighteenth century.

HISTORY 102. (3) DEVELOPMENT OF CIVILIZATION

A study of world civilization since the beginning of the eighteenth century to the present.

HISTORY 201. (3) AMERICAN HISTORY

History of the United States before 1865.

HISTORY 202. (3) AMERICAN HISTORY

History of the United States from 1865 to the present.

HISTORY 231. (3) ENGLISH HISTORY

The history of England to 1688.

HISTORY 232. (3) ENGLISH HISTORY

England since 1688. The evolution of British society and the development of responsible government.

JOURNALISM

JOURNALISM 101-102. (2-2) NEWS GATHERING AND REPORTING

Prerequisite: *English* 101-102.

A general outline of the principles of newspaper practice, followed by daily work in news gathering, reporting, and writing of news stories. Regular work on the college newspaper is required. Practice work will be arranged with the Charlotte daily newspapers.

MATHEMATICS

MATHEMATICS B. (0) PLANE AND SOLID GEOMETRY

Four hours a week.

MATHEMATICS R. (0) INTERMEDIATE ALGEBRA

Three hours a week.

MATHEMATICS 101. (5) FRESHMAN ENGINEERING MATHEMATICS I

Prerequisite or Co-requisite: *Mathematics B or its high school equivalent.*

This is a combined course in algebra and trigonometry. Topics include a brief introduction to modern algebra and set theory; determinants and matrices; solution of algebraic and trigonometric equations, systems of equations, and inequalities; mathematical induction, the binomial theorem and progressions; trigonometric and circular functions; identities and multiple angle relations; solution of triangles; and elementary theory of complex variables.

MATHEMATICS 102. (4) FRESHMAN ENGINEERING MATHEMATICS II

Prerequisite: *Mathematics* 101.

Analytic geometry in the plane and an introduction to the differential calculus. Topics include the properties of lines and curves in the plane; analytic proofs of geometric propositions; conic sections; translation and rotation of axes, functions, limits, and continuity; differentiation of algebraic functions with applications; and differentials with applications.

MATHEMATICS 106-107. (3-3) ALGEBRA AND TRIGONOMETRY

Prerequisite or Co-requisite: *High School Plane Geometry or Mathematics B.*

Topics include the real and complex number systems; functions and inverse functions; algebraic, exponential, logarithmic, and trigonometric functions and equations; systems of equations; permutations, combinations, the binomial theorem and probability; and sequences and series.

MATHEMATICS 111. (3) BUSINESS MATHEMATICS

Applications of mathematics to typical accounting, financial, and other business problems, including bank discounts, trade discounts, weighted averages, merchandise markup and turnover, application of compound interest principles to annuity, sinking fund, and amortization problems.

MATHEMATICS 201-202. (4-4) SOPHOMORE ENGINEERING MATHEMATICS I, II

Prerequisite: Mathematics 102 (*with a minimum grade of C*).

The last two-thirds of a unified course in Analytic Geometry and Calculus. Topics include indefinite and definite integrals of algebraic functions and their applications; differentiation and integration of transcendental functions; polar, cylindrical, and spherical coordinates; an introduction to vector analysis; parametric equations, curvilinear motion and curvature; special methods of integration; integration of applied problems in various coordinate systems; approximate integration, indeterminant forms, and improper integrals; infinite series and expansion of functions in series; partial differentiation and multiple integrals.

MATHEMATICS 251. (3) DIFFERENTIAL EQUATIONS

Prerequisite: Mathematics 202 (*with a minimum grade of C.*)

First order equations with variables separable; Euler's method of approximate solution; physical and geometric applications. Linear equations of first order and applications. Linear equations of higher order with constant coefficients, solution by repeated linear first order equations, variations of parameters, undetermined coefficients, operators. Systems of equations; scaling variables, applications to networks and dynamical systems. Introduction to series solutions.

MECHANICAL ENGINEERING

MECHANICAL ENGINEERING 101-102. (2-2) ENGINEERING GRAPHICS

The major areas that will be covered in this work include: instrument practice, geometric construction, orthographic projection, sections, auxiliary views, pictorial drawing, details and assemblies, charts, graphs, freehand sketching, dimensioning, true length, true slope and line as a point, edge view and true size of a plane, shortest distances between lines, a line piercing a plane, intersection of planes, dihedral angle, shortest distances to a plane, angle between a line and a plane, revolution, development of surfaces, intersection of solids, mining problems, aeronautical problems, miscellaneous problems.

ENGINEERING MECHANICS 211. (3) MECHANICS I (STATICS)
Prerequisite: *Physics* 201; *Mathematics* 201.

Study of the analytical and graphical solution for the resultant and equilibrium of concurrent, parallel, and non-concurrent non-parallel force systems under coplanar or non-coplanar conditions. The application of statics to pin connected members, trusses, and cables; friction; centroids; and moments of inertia. Shear and bending moment equations and diagrams.

MUSIC

MUSIC 101-102. (1-1) CHORUS I
MUSIC 201-202. (1-1) CHORUS II

The Charlotte College Chorus provides opportunity for students who enjoy singing to gain basic training in the principles of voice production and choral participation. Repertoire includes both sacred and secular music, and public appearances are made each year through assembly programs, radio and television presentations, and at commencement exercises.

MUSIC 103-104. (1-1) INDIVIDUAL VOICE STUDY

Basic techniques in the study of singing; classification of the voice, breathing, posture, freedom and vitalization of tone, elements of diction, vocalization, simple songs in English and Italian.

One hour of practice daily.

MUSIC 203-204. (1-1) INDIVIDUAL VOICE STUDY

More advanced techniques. Standard classics in English and Italian with additional study of songs in French or German or Spanish. Memorization of basic repertoire with application of sound principles of interpretation.

One hour of practice daily.

See page 75 for additional listing.

PHILOSOPHY

PHILOSOPHY 101. (3) A SYSTEMATIC INTRODUCTION

A study of the major issues in philosophy. There will be discussion of such typical problems as moral freedom, the mind-body relationship, and the implications of the sciences. The historic schools of materialism, idealism, realism, and pragmatism will be described.

PHILOSOPHY 102. (3) THE DEVELOPMENT OF PHILOSOPHY

A historical approach to philosophy through a study of selections from the works of great western thinkers.

PHILOSOPHY 201. (3) INTRODUCTION TO LOGIC

A survey of the general principles of deductive and inductive logic and of the nature of scientific method.

PHYSICS

PHYSICS 120. (4) TWENTIETH-CENTURY PHYSICS
No prerequisite.

Topics discussed include the historical development of the atomic and nuclear view of matter; the nature of light, x-rays, and radioactivity; atomic and thermonuclear energy. Cannot be taken for credit if Physics 211-212 has already been taken.

Three lecture and two laboratory hours a week.

PHYSICS 201-202. (5-5) PHYSICS FOR ENGINEERS
Co-requisite: *Mathematics* 201.

A study of classical topics of general physics, emphasizing modern concepts especially useful in the various fields of engineering. Problem solving and a rigorous mathematical appreciation of all topics are emphasized.

Four lecture and two laboratory hours a week.

PHYSICS 211-212. (4-4) GENERAL PHYSICS
Prerequisite: *Mathematics* 106 *or Mathematics* 101.

A study of the fundamental principles of mechanics, heat, sound, electricity, light, and a survey of modern physics. Accuracy in observation and measurements is especially emphasized in the laboratory.

Three lecture and two laboratory hours a week.

POLITICAL SCIENCE

POLITICAL SCIENCE 201. (3) INTRODUCTION TO GOVERNMENT IN THE U.S.

A basic course in American government giving attention to the origin, organization, and nature of our federal system with particular emphasis on the national government in action.

POLITICAL SCIENCE 202. (3) PROCESSES AND PROBLEMS OF GOVERNMENT IN THE UNITED STATES
Prerequisite: *Political Science* 201.

This course deals chiefly with the efforts made by government in the United States to solve public problems. It treats particularly government policies toward agriculture, labor, social welfare, and international relations.

POLITICAL SCIENCE 211. (3) COMPARATIVE GOVERNMENT
Prerequisite: *Political Science* 201.

A comparative study of foreign governments, especially in Great Britain, France, the United States, and Soviet Russia.

POLITICAL SCIENCE 212. (3) WORLD POLITICS

Prerequisite: Political Science 201.

The prerequisite may be waived by the instructor. In this course diplomatic relations, international law, power politics, and efforts to achieve world organization will be studied.

PSYCHOLOGY

PSYCHOLOGY 101. (4) GENERAL PSYCHOLOGY

A survey of general psychology as a behavioral science.

Three lecture and two laboratory hours per week.

PSYCHOLOGY 102. (3) CHILD PSYCHOLOGY

This course includes a study of the instincts, emotions, and general tendencies of children up to the age of twelve or fourteen. Remedial measures are suggested for dealing with early tendencies that may lead to serious difficulty. Special study of at least one child will be made by every student.

PSYCHOLOGY 103. (3) SOCIAL PSYCHOLOGY

A study is made of the crowd, suggestion, the mob mind, conventionality, and custom imitation. The psychology involved in compromise, discussion, conflict, and war is especially investigated.

PSYCHOLOGY 201. (2) APPLIED BUSINESS PSYCHOLOGY

The general purpose of this course is to develop an understanding of people. Emphasis will be placed on the psychological principles which govern man's adjustment on his job and which promote successful merchandising through advertising and through selling. Studies of the motives which urge men to work and to purchase goods and services will be stressed. The practical aims will be to show how an employee may be aided in becoming adjusted to his job and how to persuade customers to purchase goods and services and be satisfied.

RELIGION

RELIGION 101. (3) SURVEY OF THE OLD TESTAMENT

An introduction to the literary and historic values of Old Testament literature. English translations will be used. The emphasis will be upon the background, purpose and content of the writings.

RELIGION 102. (3) SURVEY OF THE NEW TESTAMENT

A study of New Testament literature in its historic and contemporary background with emphasis upon the content and purpose of the text. English translations will be used.

SOCIOLOGY

SOCIOLOGY 101. (3) INTRODUCTION TO SOCIOLOGY

This course will include a survey of the field of sociology with special emphasis on the fundamental functions of society, the nature of culture, human nature, collective behavior, community life, and social control.

SOCIOLOGY 102. (3) SOCIAL PROBLEMS

The problems of population, the family, distribution of wealth and income, labor and management relationships, race relations, health, crime, juvenile delinquency, insanity and mental deficiency, social control, social planning, and democracy are investigated and studied.

SOCIOLOGY 103. (3) MARRIAGE AND FAMILY

This course considers the family as the basic unit of society. The following aspects are emphasized: comparative family structure, the influence of the family on personality development, trends with reference to marriage and divorce, family disorganization and the changing function of the home, the impact of war on the family, courtship and the factors determining the choice of a marriage partner, and the principles of marriage counseling. It is intended that this course shall serve the practical purpose of preparation for successful marriage and homemaking.

SOCIOLOGY 104. (3) HUMAN RELATIONS IN INDUSTRY

A course of training in the development of personality, ability to analyze problems involving human relations, and the development of good foundations for personnel relations. Actual cases of human relations problems in industry are studied with a view toward developing the technique of working with superiors, associates, and subordinates.

SPANISH

SPANISH 101-102. (3-3) ELEMENTARY SPANISH

A study of the fundamentals of Spanish grammar with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Graded readings.

Required additional individual language laboratory drill: 1 hour.

SPANISH 201-202. (3-3) INTERMEDIATE SPANISH

Prerequisite: Spanish 101-102 *or its equivalent.*

A review of the essentials of Spanish grammar; a study of Spain and its civilization with graded readings in Spanish literature. Collateral readings.

Required language laboratory drill: 1 hour.

SPANISH 203. (3) SPANISH COMPOSITION AND CONVERSATION

Prerequisite: Spanish 101-102 *or its equivalent.*

Intermediate practical Spanish composition and conversation.

Required language laboratory drill: 1 hour.

SPANISH 221-222. (3-3) SPANISH LITERATURE

Prerequisite: Spanish 201-202.

Readings in classical and contemporary Spanish and Spanish-American literature. Book reports on collateral readings. Additional language laboratory drill.

ZOOLOGY

ZOOLOGY 111. (4) INTRODUCTORY ANIMAL BIOLOGY

Principles of animal biology, with a survey of the phyla, but special emphasis on selected invertebrate and vertebrate types. The relationship of man to the animal kingdom and the basic fundamentals of human morphology, genetics, and physiology are also stressed.

Three lecture and three laboratory hours a week.

ZOOLOGY 141. (4) ANIMAL BIOLOGY

Prerequisite: Zoology 111.

This course emphasizes the vertebrates, both from the comparative standpoint and the various phases of classification. Anatomy, histology, life history, and embryology are stressed.

Three lecture and two laboratory hours a week with two or more one-day field trips, by arrangement.

ADULT EDUCATION

The adult education program of Charlotte College endeavors to provide for the residents of Charlotte, both young and old, courses desired for increased vocational competency and cultural development. The present program offers a variety of courses, and others will be added as the need for them arises. These classes have no educational prerequisites, and most of them give no college credit either for graduation or transfer.

MANAGEMENT PROBLEMS IN THE OPERATION OF A BUSINESS

The purpose of this course is to help the owners and managers of businesses to analyze and attempt to find logical solutions to some of their problems.

MASTER CLASS FOR CHOIR SINGERS (Non-credit) $6.00

Six Friday evening sessions (8:00 to 9:30), Sept. 21 to Oct. 26, especially for choir members and directors who wish guidance in the basic technique and the art of singing. Group voice lessons with emphasis on free production and clarity of diction through the choral approach. Repertoire will be selected from material suitable for use by church choirs of all denominations. Cost of packet containing anthems and materials will not exceed $4.00.

RADIO AND TELEVISION ANNOUNCING

A course designed to introduce the student to the fundamentals of radio and television speech, with various techniques of delivery. Recordings are made of the student's work for critical analysis. No prerequisite. 3 hours per week.

READING FOR BUSINESS AND PROFESSIONAL MEN AND WOMEN

A nine-week course enabling the individual to obtain a firm grasp of the skills of more efficient reading. Lecture-demonstrations are combined with actual laboratory work in which each participates in tachistoscopic training, electrically accelerated reading and other modern techniques for building greater speed and comprehension in reading.

REVIEW CLASS FOR NORTH CAROLINA ENGINEERING REGISTRATION EXAMINATION

The forty-two hours of work in this course will include a review of the fundamentals of engineering.

The science-engineering building was named for W. A. Kennedy, textile machinery manufacturer and engineer, on February 16, 1962. Mr. Kennedy, who died on the eve of his appointment as a member of the first Board of Trustees of the Charlotte Community College System, rendered great service to Charlotte College in its early years.

SUMMARY OF ENROLLMENT FOR 1961-1962

SOPHOMORES	239
FRESHMEN	730
UNCLASSIFIED COLLEGE GRADE	75
AUDITORS	62
SUMMER SESSION	447
ADULT EDUCATION—Review Class for North Carolina Engineering Registration Examination	64
TOTAL ENROLLMENT	1617

AWARDS

THE BONNIE E. CONE AWARD	*Beth Sue Groom*
THE BILL MITCHELL AWARD	*Mildred Ann Hunter* *Glenn Francis Cline*
THE CHEMISTRY AWARD	*Calvin Hugh Beckwith*
THE MATHEMATICS AWARD	*Thomas McDonald Dunn*
THE PHYSICS AWARD	*James Clifton Davis*

COMMENCEMENT MARSHALS

CHIEF MARSHAL	*Thomas McDonald Dunn*
MARSHAL	*Charles Vance Johnson*
MARSHAL	*William Lawrence Thompson*
MARSHAL	*Sandra Louise Hodges*
MARSHAL	*Calvin Hugh Beckwith*
MARSHAL	*Harry Davis Watson*

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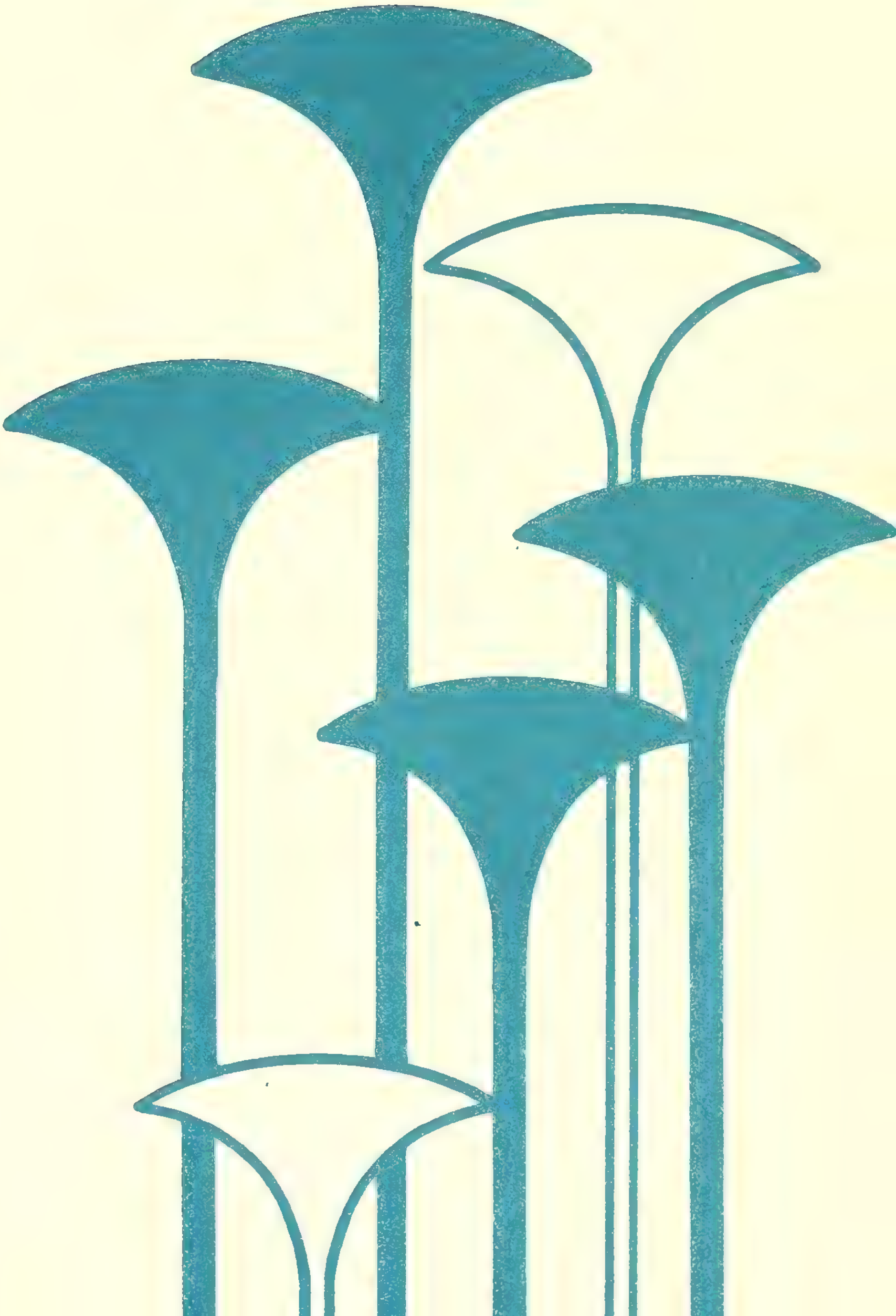
THE CATALOG OF

CHARLOTTE COLLEGE



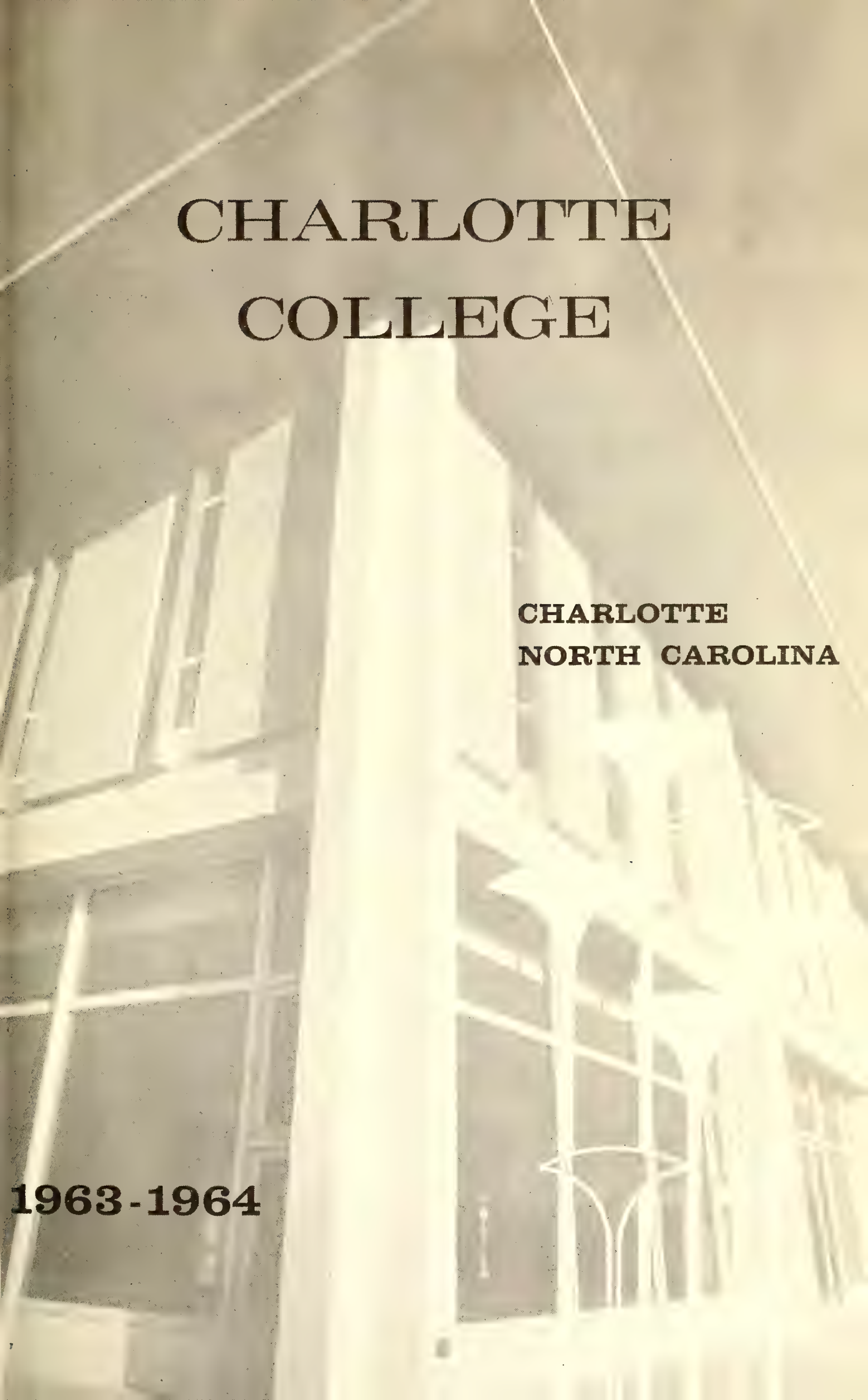
1963-1964

1949

Mailing Address:

CHARLOTTE COLLEGE
P. O. BOX 20428
CHARLOTTE, NORTH CAROLINA

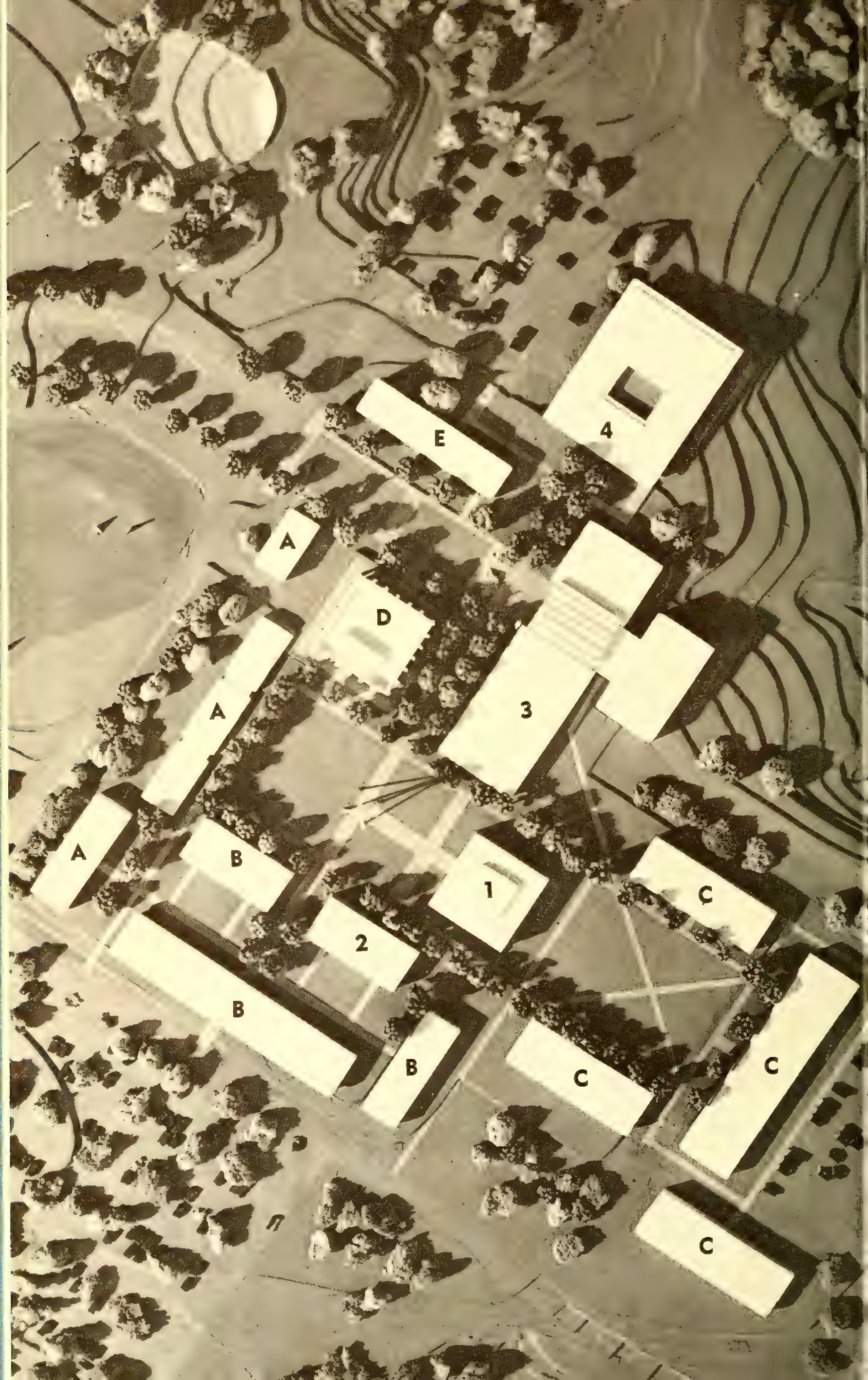
Revised as of December 1, 1963



CHARLOTTE COLLEGE

CHARLOTTE
NORTH CAROLINA

1963-1964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CHARLOTTE COLLEGE CAMPUS

Buildings Now In Use	**Buildings Planned for Future**
1—Kennedy Building (Science, Engineering)	A—Fine Arts
2—Liberal Arts	B—Liberal Arts
3—Library—East Wing	C—Science-Engineering
4—College Union—East Wing	D—Auditorium
	E—Administration

1963

SEPTEMBER

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1964

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23	24	25	26	27	28	29
30	31					

CALENDAR OF EVENTS

FALL SEMESTER

September 9	Faculty Meeting
September 9, 10, 11, 12	Orientation of Freshmen and Transfer Students
September 11	Registration of *Returning* Students Who Have Pre-registered and Paid Registration Fee Prior to September 1
September 12	Registration of *New* Students Who Have Pre-registered and Paid Registration Fee Prior to September 1
September 13	Registration of Students Who Have *Not* Pre-registered nor Paid Registration Fee Prior to September 1
September 16	First Day of Classes
September 23	Last Day to *Add* Courses for Credit
October 7	Last Day to *Drop* Courses without Penalty
November 26	Last Day of Classes Before Thanksgiving Holidays
December 2	Classes Resume
December 20	Last Day of Classes Before Christmas Holidays
January 6	Classes Resume
January 17	Last Day of Classes
January 20, 21, 22, 23, 24	Final Examinations

SPRING SEMESTER

January 27, 28	Orientation of New Students
January 29	Registration of *Returning* Students Who Have Pre-registered and Paid Registration Fee Prior to January 15
January 30	Registration of *New* and *Other* Students Who Have *Not* Pre-registered and Paid Registration Fee Prior to January 15
January 31	First Day of Classes
February 7	Last Day to *Add* Courses for Credit
February 21	Last Day to *Drop* Courses without Penalty
March 27	Last Day of Classes Before Spring Holidays
April 6	Classes Resume
May 21	Last Day of Classes
May 22, 25, 26, 27, 28	Final Examinations
May 31	Graduation Exercises

SUMMER SESSIONS, 1964

First Term

June 4	Registration
June 5	First Day of Classes
July 14	Last Day of Classes
July 15, 16	Final Examinations

Second Term

July 20	Registration
July 21	First Day of Classes
August 26	Last Day of Classes
August 27, 28	Final Examinations

ADMINISTRATION AND FACULTY

BOARD OF TRUSTEES

J. Murrey Atkins
Thomas M. Belk
Dr. Jesse Caldwell
James H. Clark
John L. Fraley
C. Frank Griffin
C. A. McKnight
Addison H. Reese
Oliver R. Rowe
Sheldon P. Smith
Mrs. A. L. Thomas
C. H. Wentz

PERSONNEL OF THE COLLEGE

OFFICERS OF ADMINISTRATION

Bonnie E. Cone	*President*
S. J. McCoy	*Academic Dean*
L. Robert Grogan	*Director of Admissions and Registration*
W. L. Yarbrough	*Business Manager*
Donald M. MacKay	*Director of College Union* *Coordinator of Student Activities*
Mildred E. English	*Director of Student Personnel*
Mark F. Tinkham	*Administrative Assistant*
Mary F. Jamison	*Assistant Director of Admissions*
Ramona F. Potter	*Public Relations, Alumni Affairs*

OFFICE AND GENERAL STAFF

Betty B. Adkins	*Receptionist*
Jerome B. Darholt	*Construction Supervisor*
Odell M. Freeman	*Secretary, Admissions and Registration*
Roberta P. Hon	*Secretary, Admissions and Registration*
William F. Hutchison	*Maintenance Supervisor*
John O'Connor	*Food Service Director*
Linda R. Patterson	*Secretary, Business Office*
Juanita S. Sims	*Secretary, President*
Edna I. Stamey	*Secretary, Admissions and Registration*
Joyce C. Willis	*Secretary, Admissions and Registration*

FACULTY

Abernathy, George R., Jr.
Associate Professor of History
B.A., Sam Houston State College
M.A., University of Texas
Ph.D., University of Texas

Alexander, James D.
Associate Professor of Physics
Ph.D., University of North Carolina

Bernstein, Percy L. (Part-time)
Instructor of Mathematics
B.E., Tulane University
M.A.T., Duke University

Blachman, William L.
Assistant Professor of Economics and Business Administration
B.S., University of Wisconsin
M.S., University of Wisconsin
Ph.D., University of Wisconsin

Blackwelder, Ruth
Associate Professor of History
B.A., Wittenberg College
M.A., University of North Carolina

Burson, S. L., Jr.
Professor of Chemistry
B.S., University of Pittsburgh
Ph.D., University of Pittsburgh

Calcote, Lee R.
Associate Professor of Engineering
B.S., Texas Agricultural and Mechanical College
M.E., Texas Agricultural and Mechanical College
Ph.D., University of Illinois

Cheek, W. E.
Instructor of Chemistry
B.S., Appalachian State Teachers College
M.A., Appalachian State Teachers College
M.A., George Peabody College for Teachers

Corkey, W. B. H.
Assistant Professor of Philosophy, Religion
B.A., Queens University
M.A., University of North Carolina

Darholt, Jerome (Part-time)
Assistant Prof. of Engineering
B.M.E., North Carolina State College

Denny, Mary
Professor of English
B.A., Salem College
M.A., Duke University

Diamant, Louis
Professor of Psychology
B.S., New York University
M.A., New York University
Ph.D., Yeshiva University

Dunn, Dorothy G.	Instructor of Business Education *B.A., Marshall College* *M.A., George Peabody College for Teachers*
Ellis, Seth	Assistant Professor of English *B.A., University of Delaware* *M.A., University of Missouri* *Ph.D., University of Southern California*
Faherty, Rodger	Instructor of Spanish *B.A., St. Louis University* *M.A., Western Reserve*
Fore, Mary	Associate Professor of English *B.A., Winthrop College* *M.A., Columbia University*
Freeman, Donald	Assistant Professor of Political Science *B.A., Wake Forest College* *M.A., University of Rhode Island* *Ph.D., University of North Carolina*
Fuhrman, Harriette	Instructor of English *B.A., Maryville College* *M.A., University of North Carolina*
Furlow, John W., Jr.	Instructor of History *B.A., Middlebury College* *M.A., University of Michigan*
Gabriel, Karl M.	Assistant Professor of German *Ph.D., University of Vienna*
George, Dick L.	Associate Professor of Mathematics *B.S., Oklahoma State University* *Ph.D., Duke University*
Gibbs, C. H.	Instructor of Geography, Geology *B.S., Syracuse University* *M.S., University of Tennessee*
Goodrum, Cloyd S., Jr.[1]	Professor of Mathematics *M.A., University of North Carolina* *B.A.E., Rensselaer Polytechnic Institute*
Hall, John	Professor of History *B.S., University of New Hampshire* *Ph.D., Columbia University*
Harlan, Howard	Professor of Sociology *B.A., University of Richmond* *M.A., University of Virginia* *Ph.D., University of Virginia*

---

[1] Absent on Leave, 1963-1964.

Hechenbleikner, Herbert — Professor of Biology
B.A., University of North Carolina
M.A., Harvard University
Ph.D., Harvard University

Higgins, Harper
Assistant Prof. of Business Administration
B.S., Presbyterian College
M.Ed., University of North Carolina

Hoyle, Frances — Associate Professor of Spanish
B.A., Woman's College of the University of North Carolina
M.A., New York University

Hutchins, Carolyn — Assistant Professor of Biology
B.S., Appalachian State Teachers College
M.S., University of Tennessee
Ph.D., University of Tennessee

Jody, Marilyn — Instructor of English
B.A., University of Kentucky

Kirby, Dorothy — Instructor of Biology
B.A., Atlantic Christian College
M.A., University of North Carolina

Lawrence, Martha — Assistant Professor of Mathematics
B.A., Winthrop College
M.A., Duke University

MacRae, Robert A. — Assistant Professor of Physics
B.S., Davidson College
M.A., Vanderbilt University

Macy, Pierre — Professor of French
Bachelier es lettres University of Nancy
Licencie es lettres University of Dijon
Docteur es lettres University of Paris

Markham, Eleanor — Associate Professor of Mathematics
B.A., Duke University
M.A., Duke University

Marshall, James — Instructor of Mathematics
B.S., Appalachian State Teachers College
M.Ed., University of North Carolina

McCoy, Doris C. (Part-time) — Assistant Professor of English
B.A., Duke University
M.A., Duke University

McCreary, John Franklynn — Instructor of Accounting,
Business Administration, Business Education
B.A., Lenoir Rhyne College

Meekins, Isaac M. — Instructor of English
B.A., Washington and Lee University

Moose, Roy — Associate Professor of English
B.A., University of North Carolina
B.A., Oxford University, Oxford, England
M.A., Oxford University, Oxford, England

Morrill, Dan — Assistant Professor of History
B.A., Wake Forest College
M.A., Emory University

Morrow, Robert — Instructor of Mathematics
B.S., North Carolina State College
M.S., North Carolina State College

Nixon, David E. — Assistant Professor of Mathematics
B.S., North Carolina State College
M.S., North Carolina State College

Norman, John H. — Professor of Chemistry
B.A., Erskine College
M.A., University of North Carolina

Perel, William — Professor of Mathematics
B.A., Indiana University
M.A., Indiana University
Ph.D., Indiana University

Ploger, Verne — Assistant Professor of History
B.G.E., University of Omaha
M.A., University of Omaha

Plybon, Louise M. — Librarian
B.S.L.S., George Peabody College for Teachers
B.S., Appalachian State Teachers College
M.S.L.S., George Peabody College for Teachers

Rieke, Robert — Professor of History, Political Science
B.A., Carleton College
M.A., University of Wisconsin
Ph.D., University of Wisconsin

Saman, Paul — Assistant Professor of French
Prom. Fil., Charles University in Prague

Scherger, Mozelle S. — Librarian
B.S., Appalachian State Teachers College
B.S.L.S., University of North Carolina

Serinken, Sina (Part-time) — Instructor of Civil Engineering
B.S.C.E., Robert College
M.S.C.E., Duke University

Slechta, J. A.	Associate Professor of French	*B.A., New York University* *M.A., Tulane University* *Ph.D., Tulane University*
Stephens, Patricia Carol	Instructor of English	*B.S., Memphis State University* *M.A., University of North Carolina*
Stoughton, Maurice	Associate Professor of Engineering	*B.A., Harvard University* *M.S., Princeton University*
Stovall, Sidney	Assistant Professor of English	*B.A., Duke University* *M.A., University of Michigan* *M.A., Columbia University*
Tarlton, Shirley Marie	Librarian	*B.A., Queens College*
Vilas, Santiago	Instructor of Spanish	*Titular Mercantil, School of Business Administration* *Journalist, Superior School of Journalism, Madrid, Spain*
Wahab, James H.	Professor of Mathematics	*B.S., College of William and Mary* *M.A., University of North Carolina* *Ph.D., University of North Carolina*
Walker, Charles M.	Instructor of Mathematics	*B.S., Western Carolina College* *M.A., University of Kentucky*
Wallace, Robert M.	Professor of English	*B.A., Wofford College* *M.A., University of North Carolina* *Ph.D., University of North Carolina*
Whitener, J. B.	Assistant Professor of Chemistry	*B.A., Duke University* *M.A., Duke University*
Williamson, Sadie H.	Instructor of Economics and Business Administration	*B.A., Woman's College of the University of North Carolina* *M.S., University of North Carolina*
Windholz, George	Instructor of Psychology	*B.A., City College of New York* *M.A., Columbia University*
Winningham, Edyth	Professor of Political Science	*B.A., University of North Dakota* *M.A., University of North Carolina*

WOODRUFF, HARVEY L. (Part-time) DIRECTOR OF MUSIC
B.S., New York University
M.A., Columbia University

WUBBEN, W. D. PROFESSOR OF ECONOMICS AND BUSINESS ADMINISTRATION
B.Ph., University of Chicago
M.B.A., University of Chicago
Ph.D., The Claremont Graduate School

GENERAL INFORMATION

OBJECTIVES OF CHARLOTTE COLLEGE

Charlotte College recognizes its responsibility to the state and the individual citizens to provide educational opportunities to meet private and public needs. It feels that these needs include enriched personal living, cultural development, responsible citizenship, and vocational and professional preparation.

Membership and Accreditation

Charlotte College is a member of the North Carolina College Conference, the Southern Association of Junior Colleges, and the American Association of Junior Colleges. It is accredited as a junior college by the Southern Association of Colleges and Secondary Schools; as a new senior college, it will become eligible in the fall of 1967 to apply to the Association for full accreditation. In the meantime, credits earned at Charlotte College are being accepted by other colleges and universities.

Location

Charlotte College is located on a 270-acre campus eight miles from downtown Charlotte on Highway 49 northeast of Charlotte. With a population of 218,600, Charlotte, in Mecklenburg County, North Carolina, serves as the center of commerce, industry, and culture of an area of twenty-four counties.

In the fall of 1961, the College moved from the old Central High School buildings in the center of Charlotte to the new campus on Highway 49. The College is now operating in four buildings (plus a central heating plant): the Liberal Arts Building, The Kennedy Building (science and engineering), the new Library Building, and the new College Union. Expansion of the College Union and construction of five more buildings are planned for the immediate future. In addition, campus improvements made and under construction include: additional paved walkways, roadways, parking lots, campus lighting, a lake, and an arboretum.

History

In the summer of 1946, when North Carolina colleges anticipated an unprecedented increase in enrollment because of returning veterans, the North Carolina College Conference and the State Department of Public Instruction decided to sponsor college centers to provide for first-year college work in Charlotte and in eleven other communities in this state. From the first, the Charlotte College Center was the largest in the state. With the addition of second-year work in the fall of 1947, the enrollment of the Charlotte College Center reached 304, making it larger than all the other college centers combined.

In 1949, the North Carolina College Conference believed that the emergency in education was over and voted to discontinue its sponsorship of the college centers. However, the large enrollment at Charlotte College in 1948-1949 indicated to the Charlotte Board of School Commissioners the continued need for such an institution and prompted them to take measures to provide for a permanent college. At the request of the Charlotte Board of School Commissioners, a bill providing for the continuation of the Charlotte College Center as a permanent community college was passed by the 1949 session of the General Assembly. This bill authorized the Board of School Commissioners to administer the college as a part of the public school system and to finance the institution by charging the students tuition. At the outset, any additional finances which were needed were to be provided from non-tax monies. In the event that these funds proved to be insufficient, the measure authorized a special election to provide a tax of not more than five cents on the $100. Since it had been apparent for some time that the available income was inadequate, a special tax election was held and approved by the electorate of the city of Charlotte on May 18, 1954. This approval provided a two cents tax on the $100 property valuation for the Charlotte Community College System of which Charlotte College is a part. In 1955, the General Assembly of North Carolina made the first appropriation for support of Charlotte College.

The two cents city levy voted in 1954 was eliminated on April 26, 1958, when citizens of Charlotte and Mecklenburg County voted a two-cent tax on the $100 property valuation in Mecklenburg County for the support of the Charlotte Community College System. This officially brought the college under the North Carolina community college system, gave it its first Board of Trustees, and made it eligible for annual grants-in-aid from the State.

On November 4, 1958, a successful bond election in Mecklenburg County provided the necessary local funds which assured the college of the maximum State grant to enable it to acquire a site and initiate its building program. The 270-acre campus on Highway 49, located about eight miles from the center of Charlotte, was purchased on February 4, 1959.

A state-wide bond election on October 27, 1959, provided for community colleges additional capital improvement funds available on a matching basis. Another Mecklenburg County bond election, held November 8, 1960, assured the Charlotte Community College System of the necessary local matching funds to provide classroom, administrative and library facilities. In 1960, the Charlotte Community College Foundation (now the Charlotte College Foundation, Incorporated) was established to enrich and strengthen the College through private sources which will supplement state appropriations and student fees.

In May 1963, the General Assembly of the State of North Carolina granted a charter to Charlotte College as a senior college, for the first time fully state-supported. The Board of Higher Education of North Carolina approved the degrees and curricula proposed by the College. Charlotte College plans to offer an expanding program of studies in the arts and sciences, business administration, economics, and in such professional and graduate curricula as may be approved by the Board of Higher Education.

In 1962-1963, Charlotte College reached a total enrollment of 2,382 individuals, including 1,890 in regular college classes and 492 students in non-college credit courses.

Library Facilities

The Library, completed in the summer of 1963, has a book capacity of more than 100,000 volumes and provision for seating 800 students. An open shelf collection of 25,000 cataloged volumes and 350 periodicals is provided to support courses offered in the present curriculum. Many pamphlets on vocational and other subjects are in vertical files. Back files of newspapers are on microfilm. Book stacks and reading areas are integrated into an informal unit with area divisions provided by moveable stacks, study carrels, and furniture. In addition to a large reading area, two seminar rooms, two conference rooms, two classrooms, and a large lecture hall are located on the second floor of the Library. In the lobby areas, provision is made for art exhibits. An enclosed area of the reference collection houses the Library's Special Collection.

In addition to the general circulating collection, reserve collections in each subject field are especially selected and kept up to date to supplement classroom instruction.

Students may use the Public Library facilities located in Charlotte and Mecklenburg County. These facilities consist of the main library and twelve city-county branches. Students may also secure research books on an inter-library loan through the University of North Carolina Inter-library Center.

Counseling and Testing

Each student entering Charlotte College is assigned a faculty advisor, who is usually in the department of the student's major. The advisor is available to assist the student in planning his academic program and approve the courses to be taken each semester. The Dean, the department heads, the Registrar, and the Director of Student Personnel are also available to provide the student with information on curricula and to aid him in the selection of a major. However, the ultimate responsibility for the selection of courses and compliance with the College requirements for a degree rests with the student.

Students may consult the Director of Student Personnel regarding the choice of a vocation, the selection of curricula, and problems of finance and personal adjustment. Information is available on aptitude and interest tests.

Veterans and War Orphans Education

Charlotte College provides educational opportunities for veterans and war orphans. Veterans seeking training under the provision of Public Law 894 (Federal Educational Rehabilitation Program), or Public Law 550 (Veterans' Readjustment Assistance Act of 1952), and war orphans seeking training under Public Law 634 (War Orphans' Educational Assistance Act of 1956) must enroll for a minimum of fourteen semester hours in order to receive full subsistence. Routines involving letters of eligibility, interruption of training, and the like are handled by the college office. Technical questions relating to the Veterans Administration are referred to the Charlotte Office of the Veterans Administration, which is located at 205 Liberty Life Building, Charlotte, North Carolina, telephone number 376-3692.

Before the time of registration, each veteran or war orphan who wishes to enter Charlotte College should:

1. Make application for admission according to the procedure described on pages 29 to 33 of the catalogue. Forward to the Registrar, transcripts of all previous high school and/or college courses completed before or after induction or as a part of Army or Navy basic training or specialized training program, and also records of courses taken by correspondence through the United States Armed Forces Institute. The latter records may be secured from United States Armed Forces Institute, Madison, Wisconsin. All transcripts and records should be sent directly from the school, college, or other agency to Charlotte College.
2. Make application through the local Veterans Administration Office for a Certificate of Eligibility and Entitlement, or, if the veteran has interrupted his previous training in another institution, for a supplemental certificate of eligibility.

War orphans under Public Law 634 and veterans in training under Public Law 894 or 550 will receive an education and training allowance each month from the Government to meet part of the expenses of their training and living costs. Tuition, fees, books, supplies, and equipment will not be paid by the Government; instead, they will have to be paid out of the monthly allowance. A veteran or war orphan will get his monthly allowance some time after the end of each month of training completed. Before the Veterans Administration can pay him, the law requires a certification from the veteran or war orphan and Charlotte College that he was enrolled in and was pursuing his course during that period.

Veterans and war orphans attending Charlotte College are required to maintain satisfactory academic achievement and attendance.

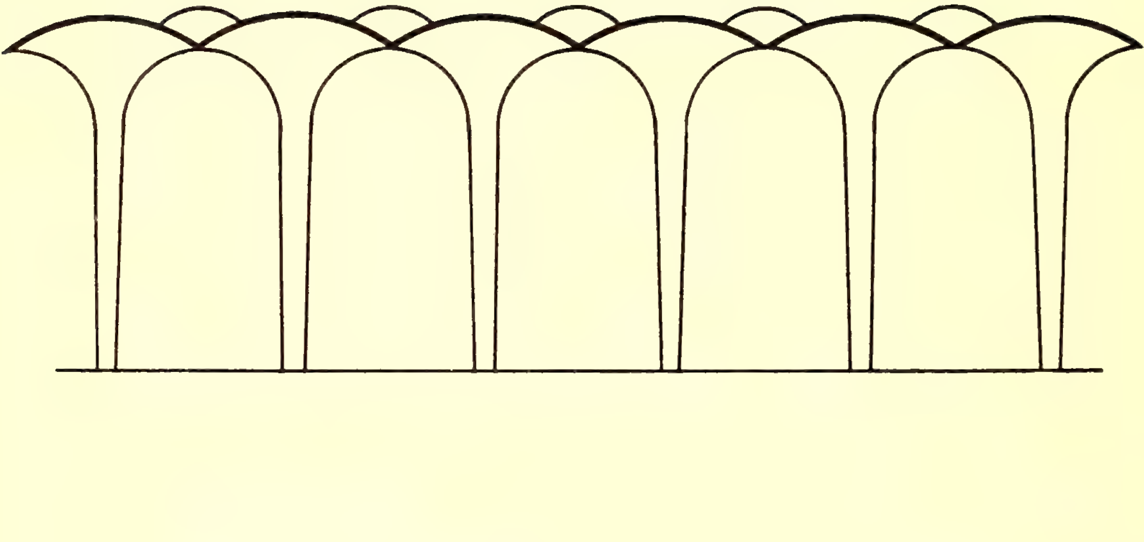
Education For Vocationally Handicapped

Men and women who have suffered a disability which renders them vocationally handicapped or which might be expected to render them vocationally handicapped are eligible for services of the Division of Vocational Rehabilitation. These services include vocational counseling and guidance, medical treatment, training (payments of costs such as books, fees, tuition), and placement. These services are available at no cost to the individual.

A Vocational Rehabilitation Officer is available in Charlotte for interviewing applicants. Appointments may be made by telephoning the Vocational Rehabilitation Office, located in Room 206, 517 Insurance Lane, at 375-8686.

Employment Service

The college assists students in securing part-time or full-time employment during their enrollment at Charlotte College and gives special attention to the placement of students who graduate in the terminal curricula. Application should be made in person at the office of the Director of Student Personnel.



STUDENT ACTIVITIES

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Student Government

Charlotte Colleges desires to encourage and to develop self-government of its students. The Student Government Association was organized in 1946, the first year of the Charlotte College Center, and has continued to function since that time.

The Student Council is composed of the president, vice-president, secretary, and treasurer of the Student Government Association; the president, vice-president, secretary-treasurer, and eight representatives of each of the three classes (freshman, sophomore, and junior); the chairmen of standing committees; and the editors and business managers of the publications. The functions of these school officers include serving the students in every possible way, forming certain committees vital to the Student Government program, and formulating, with the help of the students and faculty, certain school policies.

Athletics

The intercollegiate athletic program is at present confined to basketball. The Charlotte College Forty-Niners play a full schedule of games against teams of other member colleges of the Dixie Intercollegiate Athletic Association (associated with the National Association of Intercollegiate Athletics). Additional sports will be added to the program as facilities become available.

Recreation

Various programs of recreation and entertainment are planned and carried out by the students under faculty supervision. Formal and informal dances are held throughout the year. Other programs which attract major interest and participation include coffee-hours, picnics, receptions, and movies. Suggestions of the students are used for planning additional activities.

The College Union Building which was opened in the summer of 1963 will serve as a center for cultural and recreational activities.

Publications

LITERARY MAGAZINE

The Parnassian, a literary magazine, is published by the members of the Writers Club under the supervision of the English Department. This annual publication was first issued in the spring of 1957 and has as its aim the promotion of interest in good writing. The broad scope of subject matter gives an interesting presentation of student opinion and sentiment.

NEWSPAPER

To provide information for all persons interested in Charlotte College, the students publish a newspaper, the *Charlotte Collegian.*

The purposes of the newspaper are to create a wholesome school spirit, to support the best traditions of the institution which it represents, to encourage worthy school activities, to promote scholarship, to encourage the ideals of true sportsmanship, and to record the history of the school.

YEARBOOK

Charlotte College's yearbook, *Si Si,* was first published in the spring of 1950. Since then it has greatly increased in size and student interest. The purpose of the yearbook is to present a written and pictorial record of each college year. This publication is supported through advertisements and the Yearbook Fee. Every student who pays this fee is entitled to a copy of the *Si Si*.

Organizations

ACADEMIC

The purpose of the *Charlotte College Chapter of Student National Education Association* is to inform students of the possibilities offered in the field of education, to help them plan their courses of study, and to give them insight into the actual teaching situation. An attempt is made to direct the interest of others toward the teaching profession.

The Charlotte College Engineers' Club was formed in the fall of 1960 to give the student engineer a greater understanding of all phases of engineering. Through the assistance of the Charlotte Engineers' Club, examples of emerging engineering theory are presented in the form of practical applications.

The *Collegiate Council for United Nations* seeks through discussion groups and inter-campus meetings to gain an understanding of the activities of the United Nations and of the problems facing its member nations. Its broader purpose is to encourage student interest in international affairs.

Its membership is open to all students, and foreign students are particularly urged to take part in the activities of the Council.

Le Cercle Francais, the French Club, is open to all students interested in the language, customs and culture of the French people. Social and educational meetings are held for the purpose of broadening the members' knowledge of the French civilization and increasing their conversational ability in the French language.

El Club Espanol is open to students interested in fellowship and conversation in Spanish. The meetings are informal and are usually conducted in both Spanish and English. Frequently Spanish speaking guests talk to members of the club about the Hispanic countries. The students also participate in the presentation of plays, songs, dances, and films.

HONORARY

Phi Theta Kappa is a national honorary scholastic society. Its object is to promote scholarship, to develop character, and to cultivate fellowship among students in the junior colleges of America. The Charlotte College chapter, *Iota Lambda,* was established in May, 1957. Students who display good moral character and, at the time of election, are within the scholastic upper ten per cent of the regularly enrolled student body are normally eligible for membership.

Sigma Tau Sigma is the national honorary fraternity recognizing excellence in social science. The Charlotte College chapter, *Alpha,* was established in May, 1957, and is open to students displaying interest and achievement in the social sciences.

SERVICE

The *Charlotte College Civitan Club* is an organization devoted to building character and citizenship through service to the college community. Charlotte College Civitan Club is under the sponsorship of the Myers Park Civitan Club. All men students are eligible for membership.

Circle K is a men's service organization that seeks to develop activities that will be of significant value to the college. Students may ask to join Circle K or they may be asked by other Circle K members to become affiliated. The Charlotte College Chapter is sponsored by the Mecklenburg Kiwanis Club.

LITERARY

The Writers' Club has as its purpose the discovering and developing of talent sufficient to provide a genuine

support toward the production of a literary magazine. Students showing an interest in writing are invited to become members of the Writers' Club.

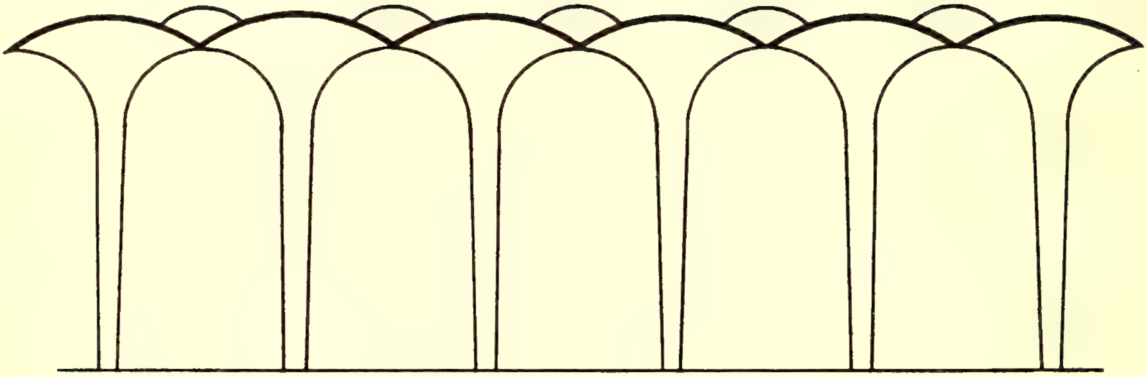
MUSICAL

The Charlotte College Chorus, which was re-organized in 1956, has added much to the atmosphere of the school. The members of this group meet weekly with a dual purpose of enjoying singing together and improving their musical abilities. The Chorus furnishes musical programs for special events during the year. One-half semester hour of credit may be earned for each semester of participation. Only four semester hours of credit may be earned in this program.

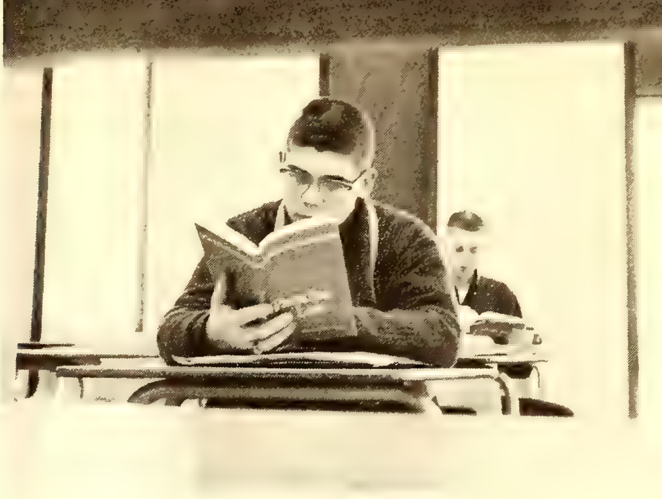
ADVISORY

The *Freshman Advisory Committee* was established at Charlotte College during the fall quarter, 1957. There is a dual purpose for this committee: to orient new students in the ways of Charlotte College and to assist the faculty advisors in guiding their students.

More than one hundred students are selected by the Student Council to serve on this committee.



GENERAL REGULATIONS



Requirements for Admission

FRESHMAN STANDING

Formal application for admission to freshman standing is made by submitting

1. Personal data requested on the application form which may be obtained from the Charlotte College office.
2. Record of satisfactory high school or preparatory school achievement. Such achievement is indicated by
    - (a) the completion of an accredited four-year high school or preparatory school course, or its equivalent, which ordinarily means graduation;
    - (b) sixteen acceptable units as outlined on the following pages.
3. Satisfactory scores on the Scholastic Aptitude Test of the College Entrance Examination Board.

Admission to candidacy for any Bachelor's degree requires the student to present certificate of graduation from an accredited school or to take specified examinations. A student should present at least 16 acceptable units of credit. The prescribed units presented for admission are determined by the program the student wishes to enter—regular college, university parallel, or terminal.

Prescribed courses for admission to candidacy to the Bachelor of Arts degree are:

English	4 units
Algebra	1½ units
Plane Geometry	1 unit
Foreign Language (2 years in 1 language)	2 units
United States History and Social Science	2 units
Natural Science (1 year with laboratory)	1 unit
Electives	4½ units

Only 3 units of the 16 units can be in non-academic or vocational subjects (such as home economics, agriculture, shorthand, typewriting, and bookkeeping).

Prescribed courses for admission to candidacy for the Bachelor of Science and Bachelor of Science in Engineering degrees are:

English	4 units
United States History and Social Science	1 to 2 units
Algebra	1½ to 3 units
Plane Geometry and Solid Geometry	1 to 1½ units
Natural Science	1 to 2 units
Electives	3½ to 7½ units

Only 3 units of the 16 units can be in non-academic or vocational subjects (such as home economics, agriculture, shorthand, typewriting, and bookkeeping).

Students majoring in Engineering, Chemistry, Physics, and Mathematics are required to present Solid Geometry with a minimum grade of C.

Deficiencies in Admission

A student who enters with deficiencies in foreign language may remove these deficiencies by taking prescribed courses without credit at Charlotte College.

Students who are deficient in English may remove deficiencies elsewhere with approval, but can do so only during the summer at Charlotte College.

For the academic school year of 1963-1964, students entering with deficiencies in mathematics will be given until September 1964 to remove these deficiencies at Charlotte College. After September 1, 1964, students will not be admitted with deficiencies in mathematics.

Terminal Curricula

The prescribed course requirements for admission to the terminal curricula in Business Administration and Accounting or in General Business and Secretarial Science are:

English	4 units
Mathematics	1 to 2 units
United States History and Social Science	1 to 2 units
Natural Science	1 unit
Electives	7 to 9 units

College Entrance Examination

All candidates for admission will be required to present satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

Arrangement for these tests is the responsibility of the applicant and should be made with the College Entrance Examination Board, Post Office Box 592, Princeton, New Jersey, not less than one month before the date of the test. On the application for the test the student should specify that the scores be sent to the Registrar, Charlotte College, Post Office Box 20428, Charlotte 2, North Carolina.

College Entrance Board tests are given at a large number of examination centers throughout the United States, including Charlotte, on:

December 7, 1963
January 11, 1964
March 7, 1964
May 2, 1964
July 8, 1964

Advanced Placement Course Credit

Any student may apply for course credit in appropriate subjects if he has had an Advanced Placement Course in secondary school (or equivalent) and has received a score of four or five on the Advanced Placement Test. These tests are given in May of each year by the College Entrance Examination Board.

Requirements for Admission

ADVANCED STANDING

A student transferring to this institution from another college or university must fulfill the requirements for admission to the freshman class, including high school transcript and College Board Examination scores. The student should present an official transcript of record from each college previously attended showing honorable dismissal. Recommendations should be sent from each institution previously attended. Applicants may be asked to take special tests as a condition of admission.

Transfer students entering Charlotte College after attending a junior college will receive no more than 66 semester hours transfer credit (including two semester hours of physical education) toward the Bachelor of Arts degree and no more than 70 semester hours transfer credit (including two semester hours of physical education) toward the Bachelor of Science and Bachelor of Science in Engineering degrees.

A grade of C is required on each course for which transfer credit is given. A course passed with the lowest passing grade at another institution does not give hours credit toward graduation, but it may be used to satisfy a subject requirement of Charlotte College.

Requirements for Continued Enrollment

The admissions committee may drop from Charlotte College any student who is not making satisfactory progress.

A student whose quality point ratio for one semester is less than 1.25 on all hours attempted will be placed on academic probation. If his quality point ratio on all hours attempted is less than 1.25 in each of two consecutive semesters of his enrollment, he will be ineligible to continue at Charlotte College.

At the end of the semester in which a student's earned semester-hour total reaches 25 semester hours, he must have at least a 1.5 overall quality point ratio on all hours attempted in order to continue his enrollment at Charlotte College.

At the end of the semester in which a student's semester hour total reaches 52 semester hours, he must have at least a 1.75 overall quality point ratio on all hours attempted in order to continue his enrollment at Charlotte College.

After this point, a student is expected to make at least a 2.0 quality point ratio for each semester. A student at this level who makes less than a 2.0 ratio in any given semester will be placed on academic probation. If he makes less than a 2.0 ratio in two successive semesters, he will be ineligible to continue at Charlotte College.

At the end of the semester in which a student's semester hour total reaches 90 semester hours, he must have at least a 1.9 overall quality point ratio on all hours attempted in order to continue his enrollment at Charlotte College.

Requirements for Readmission

Students entitled to honorable dismissal and in good standing who were previously enrolled at Charlotte College, but who did not complete the previous semester at Charlotte College should apply for readmission. If students have earned credits at another college or university since last attending Charlotte College, they must submit an official transcript of credit from that institution for consideraton for readmission.

Irregular Standing

UNCLASSIFIED STUDENT

Students in this classification must meet the same entrance requirements as regular students in order to earn college credits. As a rule, unclassified students must have the approval of the head of the department in which the courses are to be taken. Such students are to abide by the same regulations as regular students. If, at a later date, an unclassified student changes to regular status, the credits earned while he was unclassified will be accepted only if he has satisfactorily completed the proper prerequisites.

SPECIAL STUDENT

Students who do not wish to earn college credit because of admission requirements, personal objectives, or other irregularities in qualifications may enroll as special students. Such students who wish to *audit* courses may be admitted when space in the class or classes permit.

Registration for Credit

Registration for credit in any course is limited to the first week of the semester. No credit will be given to a student for a course unless he is properly registered for it.

Course Load

Five subjects of not less than fifteen semester hours total constitute a normal full college program, but a student may register for less work.

Changing or Dropping A Course

In order to change or drop a course, a student must secure written permission from his advisor and the Registrar. No student will be permitted to change a course after the first week of a semester.

A student who drops a course after the period allowed for dropping will receive a grade of F in that course unless he presents to the Administrative Committee, in writing, an acceptable reason for dropping.

Selection and Changing of Curriculum

Each candidate for a degree at Charlotte College must, at the time of entrance, apply for and be admitted to a specific degree curriculum. For the Bachelor of Arts and Bachelor of Science degrees, students must declare their choices of majors not later than the second semester of their sophomore year. A student can change from one degree or one major to another only with the recommendation of his advisor and the approval of the Academic Dean.

Withdrawal

Any student who leaves the college, except after the close of a semester, without written notification to the office, will receive a mark of F in all courses.

Schedule of Classes

Day school classes are scheduled from 8:30 a.m. until 4:30 p.m., Monday through Friday.

Evening classes are scheduled from 5:00 p.m. until 10:00 p.m., Monday through Friday.

Attendance

Each student is required to attend all sessions of the courses in which he is enrolled because he is held responsible for all assignments, including tests. No class cuts are allowed and no make-up tests are given.

Even in the event of personal illness or other unavoidable circumstances, no student will be given credit for any course unless he has attended at least 75 per cent of the total class hours of instruction.

Parking

Parking is restricted to faculty and students as outlined in the Student Handbook. Automobiles must be registered with Charlotte College.

Grading

The unit of measurement of college work is the semester hour. It represents one lecture hour per week for one semester. Two laboratory hours are considered to be equivalent to one lecture hour.

Letters are used to indicate the quality of work done. Each letter carries a quality point value for each semester hour of work attempted. The meaning of each letter with its accompanying quality point factor is:

LETTER	DESCRIPTION	QUALITY POINTS PER SEMESTER HOUR
A	Excellent	4
B	Good	3
C	Fair	2
D	Passing	1
F	Failing	0
I	Incomplete	0
W	Official Withdrawal	0

Quality Point Ratio

A student's quality point ratio is determined by multiplying the quality point factor for each grade by the number of hours received in that course and adding all accumulated quality points together, then dividing by the total number of hours the student has attempted, except those for which the student has received a grade of W.

Grade of I

The grade of I is assigned at the discretion of the instructor when a student who is otherwise passing has not completed all the work in the course. The missing work must be completed by the end of the following semester. If the I is not removed during the specified time, a grade of F is automatically assigned.

Grade of W

The grade of W will be given for a course which is dropped on or before the last day to drop a course without failure. Courses given a grade of W do not count as hours attempted. If a student drops a course after the last day to drop a course without failure he will be given the grade of F unless the administrative committee feels that circumstances do not justify this penalty, in which case the grade of W will be given. If a student drops a course unofficially, he will be given a grade of F.

Requirements for Graduation

A minimum of 60 semester hours of work is required for graduation with an Associate in Arts Degree, of which 30 must be earned at Charlotte College. To graduate a student must have a quality point ratio of at least 2.0. Upon the satisfactory completion of any of the prescribed curricula a student is awarded a diploma and the title of "Associate in Arts."

For four-year degrees and terminal programs see pages 45 through 53.

Residence Requirements

The minimum residence requirement for a Bachelor's degree at Charlotte College specifies that a student must earn at least the last 30 semester hours at Charlotte College. At least the last 12 semester hours of the work in his major field must be earned at Charlotte College.

Transcripts of Records

Upon request of the student, a transcript of academic credits earned at Charlotte College will be sent to any other college or university.

Each student is entitled to one official transcript of his work, provided that all accounts with the college have been settled satisfactorily. A student requesting an additional transcript should enclose one dollar for this service.

Expenses

TUITION

The tuition fee is six dollars per semester hour for residents of North Carolina and twelve dollars per semester hour for non-residents. The trustees have ruled that a student whose supporting parent (or guardian) has not been a *bona fide* resident of the State of North Carolina for more than six months immediately preceding the day of his first enrollment in the institution shall be termed an out-of-state student with the following exceptions:

1. A student over twenty-one years of age at the time of his first matriculation who has resided in North Carolina for more than one year other than by virtue of attendance at another college or on temporary military assignment, preceding the day of his first enrollment.
2. A student whose supporting parent is a regular employee of the Federal Government stationed in the State of North Carolina.
3. A student whose supporting parent is a regular employee of the Federal Government who is employed outside of the State, but who through law is permitted to retain his North Carolina citizenship.

The furnishing of incomplete or incorrect information regarding residence may result in the student's dismissal from college. The Registration Office determines each student's residence status on the basis of existing information and interpretation of regulations.

Registration Fee

A registration fee of ten dollars will be charged each semester. This fee is non-refundable and cannot be applied to another term or semester.

Late Registration Fee

A non-refundable fee of ten dollars will be charged for those registering after the designated registration day each semester.

Late Application Fee

A non-refundable processing fee of ten dollars will be charged for making or completing applications after September 1 for the fall semester and after January 15 for the spring semester.

Laboratory Fees

Each student taking a laboratory course or a course requiring special equipment must pay in addition to tuition, a fee to help meet the cost of conducting the laboratory or course.

Courses requiring a fee of five dollars are:

Botany 101
Botany 201
Botany 301
Botany 302
Botany 303
Business Administration T101
Business Administration T102
Business Administration T201
Business Administration T202
Business Administration T203
Business Administration T206
Business Administration T207
Geography 101
Geography 102
Geography 201
Geography 301
Geology 201
Geology 202
Geology 301
Geology 302
Physics 100
Physics 201
Physics 202
Physics 211
Physics 212
Psychology 201
Zoology 101
Zoology 201
Zoology 301
Zoology 310

Courses requiring a fee of ten dollars are:

Chemistry 101
Chemistry 102
Chemistry 201
Chemistry 202
Chemistry 301
Chemistry 302
Chemistry 303
Chemistry 304

Courses requiring a fee of fifteen dollars are:

Civil Engineering 201
Civil Engineering 202
Elec. Engineering 101
Elec. Engineering 102
Elec. Engineering 201
Elec. Engineering 202
Elec. Engineering 301
Elec. Engineering 302
Elec. Engineering 305
Elec. Engineering 314
Mech. Engineering 101
Mech. Engineering 102
Mech. Engineering 357
Mech. Engineering 358
Mech. Engineering 359
Mech. Engineering 360

Student Activity Fee

Required of each student, this fee is sixteen dollars for the fall semester and eleven dollars for the spring semester. This fee provides free admission to most of the college athletic contests, dramatic productions, College Union activities, social and entertainment functions sponsored by Charlotte College, and subscription to the college newspaper, annual, and literary magazine.

Graduation Fee

All members of the graduating class must pay a graduation fee of eight dollars at the beginning of the spring semester of the year in which they expect to graduate. This fee includes the cost of the diploma and the rental of the cap and gown.

Payment of Fees

All charges of tuition and fees are due and payable on the day of registration. Checks and money orders should be made payable to Charlotte College.

Refunds

The registration fee is not refundable.

In case of withdrawal from college during the semester, the refund schedule below applies. It is calculated beginning with the day immediately following the last scheduled day of registration.

Period of elapsed time	*Per cent of refund*
First 10 days	80
Second 10 days	60
Third 10 days	40
Fourth 10 days	20
After 40 days	NONE

Refunds are made as of the date a student files his intention or desire to drop a course, not the date of the last class attended.

Estimated Total Expenses

The estimated total expenses for the academic year at Charlotte College are:

DESCRIPTION	FALL SEMESTER	SPRING SEMESTER	TOTAL
Tuition for 15 semester hours	$ 90	$ 90	$180
Registration Fee	10	10	20
College Union and Student Activity Fees	16	11	27
Total	$116	$111	$227

Not included in the estimated expenses are courses which require laboratory fees ranging from five to fifteen dollars.

Engineering students can expect to pay approximately twenty-five dollars more each semester.

The estimated average cost of books and supplies per semester is forty to fifty dollars. Beginning engineering students may expect an additional cost of fifty-five dollars for drawing instruments, a slide rule, and supplies.

Financial Assistance

The Charlotte College Student Loan Fund was established in 1958 to provide funds which students might borrow for short-term emergencies. Under the terms of the loan, students may borrow up to $25 for 30 days. There is a $.25 service charge, but no interest is charged on the loan.

The National Defense Student Loan Fund is available at Charlotte College. Full-time students in need of financial assistance may borrow up to $1,000 each year for college-related expenses such as tuition, fees, books, and transportation. The interest rate is 3 per cent per annum, but there is no interest charged while the student is enrolled as a full-time student at Charlotte College. Loans must be repaid within ten years.

Application blanks and details on loan funds may be obtained from the Director of Student Personnel, Post Office Box 20428, Charlotte, North Carolina.

Scholarships and Grants

Friends of Charlotte College provide scholarships and grants ranging from $50 to $275 for worthy students to attend college.

In awarding scholarships and grants these factors are considered:

1. High school record
2. Scholastic potential
3. Financial need
4. Recommendations
5. Participation in school and community activities

Applications should be submitted before February 1, 1964, for financial aid for the academic year 1964-1965. However, applications will be considered throughout the year if funds are available.

Applications for financial aid and further information or counseling in financial matters may be obtained from the Chairman of the Scholarship Committee, Post Office Box 20428, Charlotte, North Carolina.

Scholarship Donors

Altrusa Club of Charlotte
Alumni of Charlotte College
American Business Women's Association
Barringer Woods Woman's Club
Charlotte Association of Insurance Women
Charlotte Board of Realtors

Charlotte Chapter, National Association of Accountants
Charlotte Civitan Club
Charlotte News
Charlotte Observer
Charlotte Optimist Club
Corporate Insurers
Daughters of the American Revolution, Mecklenburg Chapter
Easterby and Mumaw, Incorporated
Fidelis Class, Myers Park Baptist Church
Harrison-Wright
Drs. Audrey and Cecil Hawes
Jefferson Standard Foundation
Mecklenburg Kiwanis Club
North Carolina Professional Engineers' Society, Piedmont Chapter
North Carolina Professional Engineers' Society, Piedmont Chapter, Ladies' Auxiliary
Panhellenic Congress of Charlotte
Pepsi Cola
Phi Theta Kappa, Charlotte College Chapter
Piedmont Foundation
Pilot Club
Professional Construction Estimators' Association
Quota Club
Sigma Lambda Chi, Charlotte College
Earl Whitton
Mr. and Mrs. J. L. Winningham

Scholarships have been established in honor of:

Herbert Conner
E. H. Garinger
Harry P. Harding
John A. McRae, Sr.
Cecil Prince
Harry Shuford
Corine Rowe Smith
B. O. Vannort

Awards

The Bonnie E. Cone Award is given annually to a freshman student who has demonstrated fine college spirit and made a significant contribution to college life.

The Bill Mitchell Award. Two members of the graduating class who have shown outstanding qualities of scholarship and leadership and maintained an attitude of unselfish interest in the welfare of their fellow students and of the college as a whole are selected for the award.

The Chemistry Award is presented annually to the student with the highest scholastic average in freshman chemistry.

The Mathematics Award is given annually to the student with the highest scholastic average in freshman engineering mathematics.

The Physics Award. Presented annually to the sophomore with the highest scholastic average in engineering physics.

Honors

DEAN'S LIST

The Dean's List is a record of all students whose academic record merits special recognition from the college. In order to qualify for the Dean's List, a student must take a full program of five subjects (at least fifteen semester hours of work) and maintain a quality point average of at least 3.00 (a grade of B) or better, with no grade lower than a C.

COMMENCEMENT MARSHALS

The juniors who have the highest scholastic averages are honored by being named Commencement Marshals. The marshal who has the best academic record is designated Chief Marshal.

DEGREES

Bachelor of Arts

Fields in which students may major for the Bachelor of Arts degree: Chemistry, Economics and Business Administration, English, French, History, Mathematics, Political Science.

FRESHMAN YEAR	SEMESTER HOURS
English 101, 102; *or* English 111, 112	6
History 101, 102	6
Mathematics 101, 102; *or* Mathematics 103, 104	6
Natural Science[1]	8
Foreign Language[2]	6
	32

SOPHOMORE YEAR	
English 201, 202	6
Natural Science[1]	8
Foreign Language[2]	6
Social Studies[3]	6
Electives[4]	6-8
	32-34

JUNIOR YEAR	
In Major Department[5]	6-12
In Related Work[6]	6-12
Electives	6-18
	30-32

SENIOR YEAR

In Major Department[5]	6-12
In Related Work[6]	6-12
Electives	6-18
	30-32

Total number of semester hours required 126

Maximum number of semester hours in one department 36

Requirements for a major and related work:

For the major: 24-32 sem. hrs. in one field.[5]

A student must present 15 to 21 semester hours or related work approved to the Dean of the College by the head of the student's major department. This related work may be in one department, but may not be in more than two departments, other than that department of the student's major.[6]

Quality Requirements:

At least a 2.00 grade-point average on all courses attempted. At least a 2.50 grade-point average on all courses attempted in the major department.

Level of Courses:

At least 48 sem. hrs. presented for a degree must be in 300 and 400 courses.

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[1] A student must take at least one semester course in the biological sciences and at least one in the physical sciences. A student may choose from biology, chemistry, physics, geography, geology, and psychology (as either natural science or social studies, but not as both).

[2] A student must complete the third year of college study in one foreign language; except that a student who has satisfactorily passed two years of high school study in one language and chooses a different language in college may satisfy this requirement by completing the second year of college study in that second language.

[3] History, economics, political science, psychology (as either natural science or as social studies, but not as both), philosophy, religion, and sociology.

[4] A student will probably wish to begin or to continue work in his prospective major field.

[5] Majors offered are set forth on page 59-77.

[6] Required related work and recommended related work for each major are set forth on page 59-77.

Bachelor of Science

Fields in which students may major for the Bachelor of Science degree: Chemistry, Mathematics.

Freshman Year

English 101, 102; *or* English 111, 112	6
History 101, 102	6
Mathematics	6-9
Natural Science[1]	8-10
Foreign Language[2]	6
	32-37

Sophomore Year

English 201, 202	6
Natural Science[1]	5-14
Social Studies or Humanities[3]	3
Electives[4]	15-18
	32-38

Junior Year

Social Studies or Humanities[3]	6
In Major Department	12-15
In Related Work	6-9
Electives	6
	30-36

Senior Year

Social Studies or Humanities[3]	6
In Major Department	12-15
In Related Work	9-12
Electives	0-9
	30-36

Total number of semester hours required 127-133

Maximum number of semester hours in any one department 46

Requirements for a major and related work:

For the major: 24-32 sem. hrs. in one field.[5]
A student must present 15-25 semester hours of related work approved to the Dean of the College by the head of the student's major department. This related work may be in one department, but may not be in more than two departments, other than that department of the student's major.[6]

Quality requirements:

At least a 2.00 grade-point average on all courses attempted. At least a 2.50 grade-point average on all courses attempted in the major department.

Level of Courses:

At least 48 sem. hrs. presented for a degree must be in 300 and 400 courses.

---

[1] A student must take at least one semester course in the biological sciences and at least one in the physical sciences. A student may choose from biology chemistry, physics, geography, geology, and psychology (either Natural Science or Social Studies).

[2] A student must complete the second year of one foreign language. If a student chooses for this requirement to begin a language other than that studied in high school, he must take two years of this language.

[3] In the total requirements labeled "Social studies or humanities," a student must take at least 9 semester hours in elected social studies and at least 6 semester hours in elected humanities. For social studies, a student may elect from history, economics, political science, sociology, psychology (as natural science or as social study, but not as both). For humanities, a student may select from courses in English literature and courses in French, German, and Spanish literature. Also, courses in philosophy and in religion may count as either social studies or as humanities, but not as both.

[4] A student is expected to begin or to continue, in his sophomore year, work in his prospective major department.

[5] Majors offered are set forth on page 59-77.

[6] Required related work and recommended related work for each major are set forth on page 59-77.

Bachelor of Science in Engineering

(Option of Electrical or Mechanical)

FRESHMAN YEAR		SEMESTER HOURS
English 101, 102; *or* English 111, 112		6
History 101, 102		6
Mathematics 141, 142		8
Chemistry 101, 102		8
Engineering 100		1
Mechanical Engineering 101, 102		4
		33

SOPHOMORE YEAR		
Mathematics 241, 242		8
Physics 201, 202		10
Economics 201, 202		6
Mechanical Engineering 251, 252		6
Electrical Engineers		
Electrical Engineering 201, 202	8	
Elect from English 200 Courses	3	
Mechanical Engineers		
Mechanical Engineering 253, 254	5	
Elect from English 200 Courses	3	
Elect from Humanities or Social Studies	3	
Total from Either Option		11
		41

JUNIOR YEAR		
Mechanical Engineering 351		3
Mechanical Engineering 353, 354		6
Mathematics 341		3
Mathematics 361		3
Electrical Engineers		
Electrical Engineering 301, 302	8	
Electrical Engineering 305	4	
Electrical Engineering 314	4	

JUNIOR YEAR (continued)		SEMESTER HOURS
Elect from Humanities or Social Studies		6
Mechanical Engineers		
Mechanical Engineering 355	3	
Mechanical Engineering 356	3	
Mechanical Engineering 357, 358	2	
Electrical Engineering 359, 360	8	
Elect from Humanities or Social Studies	3	
Elect from English 200 Courses	3	
Total from Either Option		22
		38

SENIOR YEAR		SEMESTER HOURS
Electrical Engineers		
Fields and Circuits III.	7	
Electronic Engineering	3	
Communications Engineering	3	
Fundamentals of Digital Systems	3	
Elect from Physical Science or Mathematics	12	
Elect from Humanities or Social Studies	6	
Mechanical Engineers		
Power Plants	3	
Heat Transfer	3	
Machine Design	6	
Mechanical Laboratory II.	4	
Fluid Mechanics	3	
Elect from Physical Science or Mathematics	6	
Elect from Humanities or Social Studies	9	
Total from Either Option		34
Total Number of Semester Hours		141

Quality Requirement: At least a 2.00 quality-point average on all courses attempted.

Preparation for Teaching

Beginning in September 1963, Charlotte College will offer a series of courses in professional Education, designed to prepare students for high school teaching in the subject areas in which the College is offering majors. The expectation is that the first graduates of the College (in 1965) will be so qualified for teaching positions. Planning is underway for the development of preparatory programs in other teaching fields—elementary education, other high school areas, etc.

Terminal Curricula

The terminal curricula are intended primarily for students who expect to complete their college program in two years or less. These programs are designed for two distinct types of students: (1) those who plan to go directly into employment, and (2) those who are studying for advanced positions with their present employer. Several of the courses taken in each program are transferable to the university parallel curriculum without a loss of semester credit hours.

Business Administration and Accounting

FIRST YEAR	SEMESTER HOURS
English 101, 102; *or* English 111, 112	6
History 101, 102	6
Business Administration T101, T102	8
Business Administration T121	3
Business Administration T111	3
Electives	6
Total	32

SECOND YEAR	
English 201, 202	6
Economics 201, 202	6
Business Administration T205	3
Political Science 201	3
Electives	12
Total	30

Proficiency in typewriting is required in this program. Students not proficient in typewriting must elect Business Education T155, T156.

General Business and Secretarial Science

FIRST YEAR	SEMESTER HOURS
English 101, 102; *or* English 111, 112	6
History 101, 102	6
Business Administration T101, T102	8
Business Education T155, T156	6
Business Education T157, T158	6
Total	32

Business Education T111	3
Business Education T255, T256	6
Business Education T257, T258	6
Business Education T261	3
Business Education T262	3
Electives	12
Total	33

Associate in Arts Degree

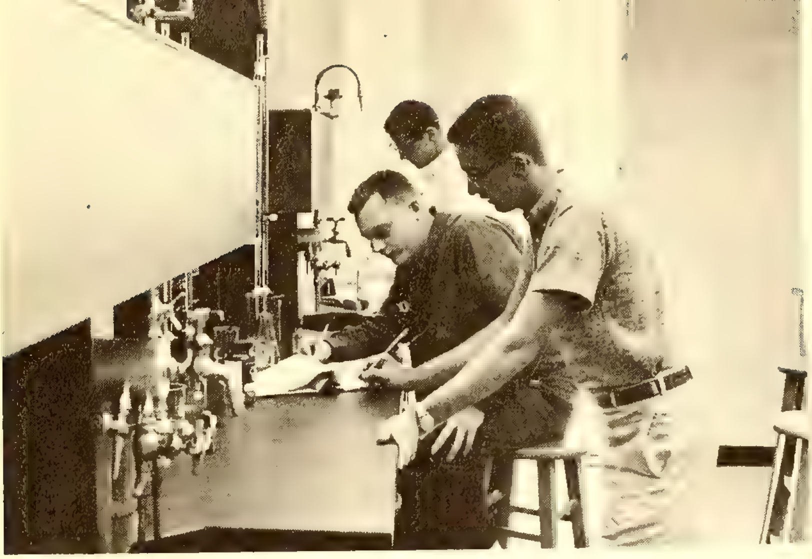
Students completing 60 semester hours of work in a terminal or university parallel curriculum may be awarded the degree of Associate in Arts. At least 30 semester hours of the work must be done at Charlotte College. An overall quality point ratio of 2.00 is required.

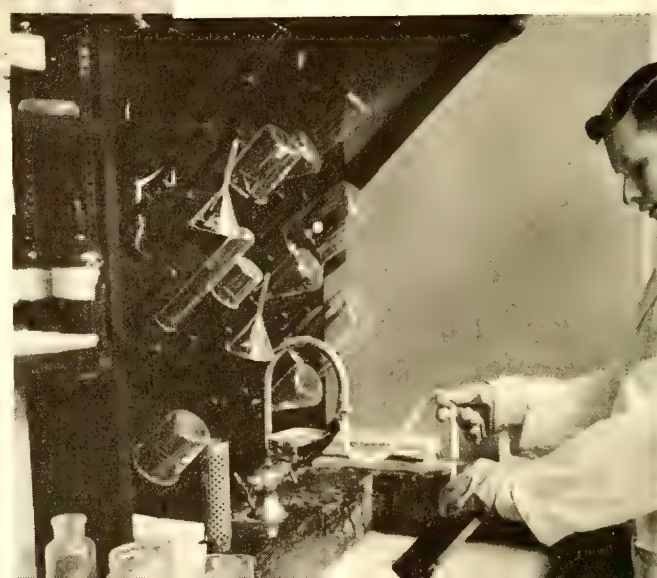
University Parallel Curricula

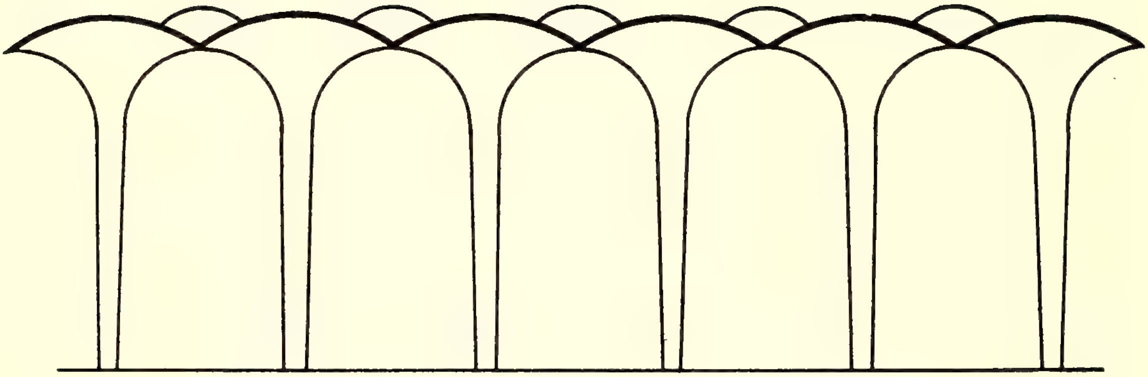
Students who wish to graduate in curricula not offered at Charlotte College and who therefore wish to transfer to another college or university may work out a program of study at Charlotte College for the freshman and sophomore years that will lead directly into their desired curricula at certain other institutions. Such students should consult the Academic Dean and their advisors at Charlotte College for assistance and suggestions in planning their programs.

Such basic curricula which students may follow at Charlotte College are in:

Agricultural Science
Elementary Education
Chemical Engineering
Civil Engineering
Geological Engineering
Journalism
Pre-Law
Pre-Medicine
Pre-Optometry
Pre-Pharmacy







COURSES OF STUDY

Entries in this chapter include the following information: the number of the course, to be preceded by the name of the subject (e.g., Botany 101, History 342); the specific title of the course; in parentheses, the semester hour value of the course; prerequisites, if any; brief description of contents; number of hours the class is in session per week and the division of these hours between lecture and laboratory (if no information of this sort is given, the class meets as many times per week as there are semester hours of credit for the course).

Biology

Professor Hechenbleikner; *Assistant Professor* Hutchins; *Instructor* Kirby

Botany

101. INTRODUCTION TO PLANT BIOLOGY. (4) Plants in relationship to their habitat, distribution, and their significance to animals and to human beings. The biochemical processes of cells and tissues in relation to function, together with their importance in plant inheritance. Three lecture hours and one laboratory period of three hours a week.

201. PLANT BIOLOGY. (4) *Prerequisite:* Botany 101. Selected life histories of major plant groups. Living field specimens. Plant anatomy, histology, and physiology. Three lecture hours and one laboratory period of three hours a week. Two or more one-day field trips to be arranged.

301. BRYOPHYTA. (4) *Prerequisite:* Botany 201. Field collecting, identification and study of the life histories of typical bryophytes. Three lecture hours and one laboratory period of three hours a week.

302. PLANT PHYSIOLOGY. (4) *Prerequisites:* Botany 201; Chemistry 202. The tissues and life processes of representative plants, including laboratory work in the use of radioactive tracers. Three lecture hours and one laboratory period of three hours a week.

303. GENETICS. (4) *Prerequisite:* Botany 201. Principles of heredity as applied to plants as evidenced by the breeding and improvement of crop and ornamental plants. Biochemical nature of mutation and variation. Three lecture hours and one laboratory period of three hours a week.

To Be Added In 1964-1965:

PLANT CYTOLOGY

MYCOLOGY

Zoology

101. INTRODUCTION TO ANIMAL BIOLOGY. (4) Survey of the phyla with emphasis on selected invertebrate and vertebrate types. Relationship of man to the animal kingdom and the basic fundamentals of human morphology, genetics, and physiology. Three lecture hours and one laboratory period of three hours a week.

201. ANIMAL BIOLOGY. (4) *Prerequisite:* Zoology 101. Emphasis on the vertebrates, both from the comparative standpoint and the various phases of classification. Anatomy, histology, life history, and embryology. Three lecture hours and one laboratory period of three hours a week. Two or more one-day field trips to be arranged.

301. INVERTEBRATE ZOOLOGY. (4) *Prerequisite:* Zoology 201. Life histories and comparisons of various invertebrate animal groups with emphasis on certain parasites of the human race. Three lecture hours and one laboratory period of three hours a week.

310. COMPARATIVE VERTEBRATE ANATOMY. (4) *Prerequisite:* Zoology 201. Selected animals for laboratory dissection from the Vertebrata together with lectures and discussion of other related forms. Three lecture hours and one laboratory period of three hours a week.

To Be Added In 1964-1965:

EMBRYOLOGY

HISTOLOGY

Chemistry

Professors Burson, *Chm.*, Norman; *Assistant Professor* Whitener; *Instructor* Cheek

A major in Chemistry leading to the B.A. degree consists of 32 semester hours in chemistry. Related work consists of 20 semester hours in two of the following departments: Biology, Mathematics, or Physics.

A major in Chemistry leading to the B.S. degree consists of 44 semester hours in chemistry. Related work consists of 25 semester hours of mathematics (all of which is to be beyond algebra and trigonometry) and physics.

101. GENERAL CHEMISTRY. (4) *Prerequisite or Corequisite:* Mathematics 101; *or* Mathematics 103. Fundamental principles, theories, and laws of chemistry; occurrence, preparation, properties, and uses of selected elements and their compounds. Three lecture hours and one laboratory period of three hours a week.

102. QUALITATIVE ANALYSIS. (4) *Prerequisite:* Chemistry 101. Continuation of Chemistry 101. Equilibrium, oxidation and reduction; metallurgy; introduction to organic, food, nuclear, and thermo chemistry; and semi-microanalytical laboratory techniques in the identification of common cations and anions. Three lecture hours and one laboratory period of three hours a week.

201. ORGANIC CHEMISTRY. (6) *Prerequisite:* Chemistry 102. Aliphatic and aromatic carbon compounds, with a theoretical interpretation of their reactions. Three lecture hours and two laboratory periods of three hours a week.

202. ORGANIC CHEMISTRY: (6) *Prerequisite:* Chemistry 201. Continuation of Chemistry 201. Three lecture hours and two laboratory periods of three hours a week.

301. PHYSICAL CHEMISTRY. (4) *Prerequisites:* Chemistry 202; Mathematics 141; Physics 202 or Physics 212. Modern theoretical chemistry, with emphasis on thermodynamics, kinetics, and modern structural concepts. Three lecture hours and one laboratory period of three hours a week.

302. PHYSICAL CHEMISTRY. (4) *Prerequisite:* Chemistry 301. Continuation of Chemistry 301. Three lecture hours and one laboratory period of three hours a week.

303. QUANTITATIVE ANALYSIS. (4) *Prerequisites:* Chemistry 102; *and* satisfactory work in college mathematics and physics. Introductory course in quantitative analytical chemistry, including both volumetric and gravimetric procedures. Two lecture hours and two laboratory periods of three hours each a week.

304. ADVANCED QUANTITATIVE ANALYSIS. (4) *Prerequisites:* Chemistry 301; Chemistry 303. Continuation of Chemistry 303, involving more difficult methods including instrumental methods such as spectrophotometric, electro-analytical, and chromatographic techniques. Two lecture hours and two laboratory periods of three hours each a week.

To Be Added In 1964-1965:

ADVANCED INORGANIC CHEMISTRY
ADVANCED ORGANIC CHEMISTRY
INDEPENDENT STUDY AND RESEARCH

Economics and Business Administration

Professor WUBBEN, *Chm.*; *Assistant Professor* BLACHMAN; *Instructor* WILLIAMSON

A major in Business Administration leading to the B.A. degree consists of 30 semester hours in the department of Economics and Business Administration. All majors are required to take Principles of Economics (6), Principles of Accounting (6), Industrial Relations (3), Marketing (3), Production Management (3), Price Theory and Industrial Organization (3), Financial Management (3), and Business Law (3). Majors in this department must take Mathematics 221 and 222 (6), Probability and Statistics.

Related work consists of 15 semester hours.

Economics

201. PRINCIPLES OF ECONOMICS. (3) Organization and underlying forces of economic life. Emphasis upon the private enterprise system. Major topics include production, national income, and money and banking.

202. PRINCIPLES OF ECONOMICS. (3) *Prerequisite:* Economics 201. Continuation of Economics 201. Major emphasis on distribution, public finance, international trade, and public policy issues.

305. INDUSTRIAL RELATIONS. (3) *Prerequisite:* Economics 202. Systematic analysis of the sociological, economic, and political forces affecting and affected by the work environment. Special emphasis on market structure, the small group, the legal environment, and union structure.

322. PRICE THEORY AND INDUSTRIAL ORGANIZATION. (3) *Prerequisite:* Economics 202. Allocation of resources and the distribution of income through the pricing mechanism and given market structures. Emphasis on the analytical tools.

To Be Added In 1964-1965:
PRODUCTION MANAGEMENT
MONEY AND BANKING
BUSINESS CYCLES
BUSINESS LAW

Business Administration

201. PRINCIPLES OF ACCOUNTING. (3) *Prerequisite or Corequisite:* Economics 201. Theory of debits and credits. Construction of trial balance, work sheet, profit and loss statement, and balance sheet. Brief introduction to data processing. Problems characteristic of a single proprietorship form of business. Three lecture hours and one laboratory period of two hours a week. The laboratory period is optional unless scheduled for an examination.

202. PRINCIPLES OF ACCOUNTING. (3) *Prereqiusite:* Business Administration 201. Continuation of Business Administration 201. Emphasis on partnerships and corporations. Statements analysis and interpretation. Three lecture hours and one laboratory period of two hours a week. The laboratory period is optional unless scheduled for an examination.

311. MARKETING. (3) *Prerequisite:* Economics 202. *Prerequisite or Corequisite:* Business Administration 201. Institutional organization of the market and the functioning of marketing agencies in the distribution of goods.

316. FINANCIAL MANAGEMENT. (3) *Prerequisite:* Economics 202. Principles and problems of business financing. Particular emphasis on financial planning and control.

Education

(See "Preparation for Teaching", p. 51)

Engineering

Associate Professors Calcote, Stoughton; *Assistant Professor* Darholt; *Instructor* Serinken (Part-time)

For required curriculum leading to the B.S. degree in Engineering, please see pages 49 and 50.

100. INTRODUCTION TO ENGINEERING. (1) Survey of the professional fields in engineering, the work of the engineer, requirements in training and character, professional ethics,

and the divisions of industrial practice. Solving of simple problems from various fields of engineering with slide rule applications. One lecture hour a week.

ELECTRICAL ENGINEERING

201. ELEMENTARY FIELDS AND CIRCUITS I. (4) *Prerequisite or Corequisite:* Mathematics 142. Introduction to transient and steady state analysis. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

202. ELEMENTARY FIELDS AND CIRCUITS II. (4) *Prerequisites:* Electrical Engineering 201; Physics 201. Introduction to magnetic circuits, magnetic and electric fields, and energy conversion. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

301. INTERMEDIATE FIELDS AND CIRCUITS I. (4) *Prerequisites:* Electrical Engineering 202; Mathematics 241; Physics 202. Lumped-constant A. C. circuits. Single and three phase. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

302. INTERMEDIATE FIELDS AND CIRCUITS II. (4) *Prerequisites:* Electrical Engineering 301; Mathematics 242. Theory of transmission lines. Filters. Impedance matching. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

305. ELECTRICAL MACHINERY. (4) *Prerequisite:* Electrical Engineering 202. Principles, performance, and characteristics of D. C. and A. C. machinery. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

314. ELECTRONICS. (4) *Prerequisites:* Electrical Engineering 301. Active vacuum, gas, and solid state devices in electronics. Linear and nonlinear representation. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

359. PRINCIPLES OF ELECTRICAL ENGINEERING I. (4) *Prerequisite:* Physics 202. Basic electrical concepts; the generation and utilization of electric power; the fundamentals of electronics and control circuits. The lecture hours and one laboratory period of three hours a week.

360. PRINCIPLES OF ELECTRICAL ENGINEERING II. (4) *Prerequisite:* Mechanical Engineering 359. Continuation of Mechanical Engineering 359. Three lecture hours and one laboratory period of three hours a week.

To Be Added In 1964-1965:

ADVANCED CIRCUITS AND FIELDS
ELECTRICAL ENGINEERING SENIOR SEMINAR
ELECTRONIC ENGINEERING
COMMUNICATION ENGINEERING
FUNDAMENTALS OF DIGITAL SYSTEMS

Mechanical Engineering

101. ENGINEERING GRAPHICS. (2) *Prerequisite:* One high school course in Solid Geometry. Same as Electrical Engineering 101.

102. ENGINEERING GRAPHICS. (2) *Prerequisite:* Mechanical Engineering 101.

251. ENGINEERING MECHANICS I: STATICS. (3) *Corequisites:* Mathematics 241; Physics 201. Analysis of force systems by means of vector algebra. Two- and three-dimensional systems, including force fields, are treated. The principle of virtual work is introduced.

252. ENGINEERING MECHANICS II: DYNAMICS. (3) *Prerequisite:* Engineering Mechanics 231. *Corequisite:* Mathematics 242. Introduces the elements of vector calculus as applied to mechanics; treats kinematics, moving reference frames, and Coriolis accelerations; treats the kinetics of central force motion and plane motion; introduces energy and momentum principles for particles and rigid bodies; introduces tensor analysis and presents the motion of the inertia tensor and Euler's equations of motion.

351. SOLID MECHANICS. (3) *Prerequisite:* Mechanical Engineering 252. The mechanics of deformable solids. The equations of the linear elastic solid and the theory of elasticity applied to force systems, states of motion, and energy inputs.

353. THERMODYNAMICS I. (3) *Prerequisites:* Mathematics 241; Physics 201. Essential concepts of thermodynamics and their application to the behavior of systems. Consideration of changes resulting from changes in state, treatment of energies and enthalpies of reaction, transformation and solution, energy balances, and applications.

354. THERMODYNAMICS II. (3) *Prerequisite:* Mechanical Engineering 353. Continuation of Mechanical Engineering 353.

355. KINEMATICS. (3) *Prerequisite:* Mechanical Engineering 252. Comprehensive treatment of displacement, velocity, and acceleration in plane and space motion, using classical and modern higher analytical methods. Applications to the field of Mechanical Engineering.

356. DYNAMIC ANALYSIS. (3) *Prerequisite:* Mechanical Engineering 355. The application of rational dynamics to mechanical systems, science of motion, and vibrations.

357. MECHANICAL LABORATORY I. (1) *Corequisites:* Mechanical Engineering 353, 355. Theory and principles of instrumentation and measurement are combined with laboratory experiments and projects involving the use of kinematic quantities, thermophysical applications, and energy measurements. No lecture hours. One laboratory period of three hours a week.

358. MECHANICAL LABORATORY II. (1) *Corequisites:* Mechanical Engineering 354, 356. Continuation of Mechanical Engineering 357. No lecture hours. One laboratory period of three hours a week.

To Be Added In 1964-1965:

FLUID MECHANICS
POWER PLANTS
HEAT TRANSFER
MACHINE DESIGN
MECHANICAL LABORATORY III, IV.
METALLURGY

Civil Engineering

Instructor SERINKEN (part-time)

201. SURVEYING I. (3) *Prerequisite:* Mathematics 141. Elements of plan surveying including taping, transit, level, stadia, plane table, topographic surveying and mapping, care and adjustment of instruments; construction surveys; earthwork computations; route surveys and design; simple, compound, parabolic, and spiral curves; chainage equations. One lecture hour, two problem solving hours, and one laboratory period of three hours a week.

202. SURVEYING II. (3) *Prerequisite:* Civil Engineering 201. Continuation of Civil Engineering 201. One lecture hour, two problem solving hours, and one laboratory period of three hours a week.

English

Professor WALLACE, *Chairman,* DENNY *(Chairman of Freshman English); Associate Professors* FORE, MOOSE; *Assistant Professors* ELLIS, MCCOY (part-time), STOVALL; *Instructors* FUHRMAN, JODY, MEEKINS, STEPHENS

A major in English leading to the B.A. degree consists of 30 semester hours of English, including English Composition (6), English Literature (6), American Literature (3), Shakespeare (3), Advanced Composition (3), and 9 semester hours in one of the following areas: English Literature, American Literature, Writing and Language. Related work consists of 15 semester hours.

101. ENGLISH COMPOSITION. (3) Intensive practice in theme writing. Review of the fundamentals in English grammar and usage, the reading and writing of exposition.

102. ENGLISH COMPOSITION. (3) *Prerequisite:* English 101. Continuation of various types of narrative and critical writing, collateral reading.

111. ACCELERATED FRESHMAN COMPOSITION. (3) For students whose English Placement and College Board scores indicate superior ability in reading and composition.

112. ACCELERATED FRESHMAN READING AND COMPOSITION. (3) Intensive program in reading and composition for students especially recommended by instructors of English 111.

201. ENGLISH LITERATURE. (3) *Prerequisite:* English 102; *or* English 112. Intensive study of the masterpieces of English literature in chronological sequence. Emphasis on Chaucer, Shakespeare, and Milton.

202. ENGLISH LITERATURE. (3) *Prerequisite:* English 201. Continuation of chronological sequence study of English masterpieces. Emphasis on major poets of the Romantic and Victorian periods.

207. ADVANCED COMPOSITION. (3) *Prerequisite:* English 102; *or* English 112. The writing of essays, criticism, and other forms of exposition, short narratives.

208. JOURNALISM. (3) *Prerequisite:* English 102; *or* English 112. Basic course in journalistic writing with emphasis on the simple news story. Analysis of student articles and magazine articles.

301. MASTERPIECES OF EUROPEAN LITERATURE. (3) *Prerequisite:* English 202. Reading of complete works in translation: Epic, drama, history, oratory, and lyric poetry.

302. MASTERPIECES OF EUROPEAN LITERATURE. (3) *Prerequisite:* English 202. Readings of Dante, Erasmus, Montaigne, Moliere, Dostoevosky, Tolstoy, and others.

311. CHAUCER. (3) *Prerequisite:* English 202. *The Canterbury Tales;* parts of *Troilus* and *Criseyde.*

312. SHAKESPEARE. (3) *Prerequisite:* English 202. Twelve of his major plays from the comedies, tragedies, and histories.

321. THE SEVENTEENTH CENTURY. (3) *Prerequisite:* English 202. The major writers from the beginning of the century through Milton and Bunyan. Emphasis upon the metaphysical poets.

323. THE RESTORATION AND EIGHTEENTH CENTURY. (3) Poetry and prose from Dryden through Johnson; collateral readings in the drama and the novel.

325. THE ROMANTIC ERA (1798-1832). (3) *Prerequisite:* English 202. The development of the Romantic movement with emphasis on the works of Wordsworth and Coleridge; the major poems of the later Romantic poets.

326. THE VICTORIAN ERA (1832-1900). (3) *Prerequisite:* English 202. Works of Tennyson, Robert and Elizabeth Browning, Arnold, Swinburne, Carlyle, Ruskin, and Newman.

331. THE ENGLISH LANGUAGE. (3) *Prerequisite:* English 102; *or* English 112. Origins and development of the English language and its present usage.

332. ENGLISH GRAMMAR. (3) *Prerequisite:* English 102; *or* English 112. English grammar with particular emphasis on modern usage and with the relations of grammar and composition. Designed to satisfy the North Carolina requirements for prospective teachers of English who have taken advanced composition.

341. EARLY AMERICAN LITERATURE. (3) *Prerequisite:* English 202. American Literature from Colonial times through Emerson.

342. AMERICAN LITERATURE FROM 1850 TO 1900. (3) *Prerequisite:* English 202. Emphasis upon the Civil War and Westward expansion; upon regionalism, the rise of realism, and the development of social revolt.

423. THE MODERN NOVEL. (3) Eight representative modern novels showing the philosophies and techniques affecting English and American fiction; emphasis on Hardy, Conrad, James, Joyce, Lawrence, Hemmingway, Faulkner, and Amis.

To Be Added In 1964-1965:

THE ENGLISH NOVEL (1740-1800)

MODERN AMERICAN LITERATURE

MILTON

Foreign Languages

Professor MACY, *Chairman; Associate Professors* HOYLE, SLECHTA; *Assistant Professors* GABRIEL, SAMAN; *Instructors* FAHERTY, VILAS

French

A major in French leading to the B.A. degree consists of 30 semester hours of French, including Advanced French Grammar and Composition (3), Survey of French Literature (6), Advanced French Conversation (3), Selected Readings from the Great Writers of the Eighteenth and Nineteenth Centuries Prose and Poetry (3), Representative Twentieth Century Poetry and Prose (3), The Middle Ages (Sixteenth and Seventeenth Centuries) Poetry and Prose (3), and The Great Tragedies and Comedies of the Seventeenth and Eighteenth Centuries (3). Related work consists of 18 semester hours.

101. ELEMENTARY FRENCH. (3) Fundamentals of grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Three lecture hours and one laboratory period of one hour a week.

102. ELEMENTARY FRENCH. (3) *Prerequisite:* French 101. Continuation of French 101. Graded readings. Three lecture hours and one laboratory period of one hour a week.

201. INTERMEDIATE FRENCH. (3) *Prerequisite:* French 102; *or* 2 units of high school French. France and its Civilization. Three lecture hours and one laboratory period of one hour a week.

202. INTERMEDIATE FRENCH. (3) *Prerequisite:* French 201; *or* equivalent. Graded readings in contemporary prose. Book report on collateral reading. Three lecture hours and one laboratory period of one hour a week.

203. INTERMEDIATE GRAMMAR AND COMPOSITION. (3) *Prerequisite:* French 102; *or* equivalent. Book report on collateral reading. Recommended as preparation for French 301. Three lecture hours and one laboratory period of one hour a week.

205. INTERMEDIATE PRACTICAL FRENCH CONVERSATION. (3) *Prerequisite:* French 202; *or* equivalent. Book report on collateral reading. Recommended as preparation for French 302. Three lecture hours and one laboratory period of one hour a week.

221. CLASSICAL AND CONTEMPORARY FRENCH LITERATURE. (3) *Prerequisite:* French 202; *or* equivalent. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

222. CLASSICAL AND CONTEMPORARY FRENCH LITERATURE. (3) *Prerequisite:* French 221. Continuation of French 221. Three lecture hours and one laboratory period of one hour a week.

301. ADVANCED FRENCH GRAMMAR AND COMPOSITION. (3) *Prerequisites:* French 203 (*or* equivalent), plus one additional French 200 course. For prospective teachers of French and students who want intensive oral and written work in the language. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

302. ADVANCED FRENCH CONVERSATION. (3) *Prerequisite:* French 203; *or* French 301. Informal conversation on diversified prepared topics, newspaper and magazine articles. Students will be given maximum opportunity for self-expression. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

303. SURVEY OF FRENCH LITERATURE. (3) *Prerequisite:* French 222; *or* equivalent. Selected readings in poetry and prose from the Middle Ages to the present time. Emphasis on each literary movement. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

304. SURVEY OF FRENCH LITERATURE. (3) *Prerequisite:* French 303. Continuation of French 303. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

To Be Added In 1964-1965:

GREAT PROSE AND POETRY WRITERS OF THE EIGHTEENTH AND NINETEENTH CENTURIES

REPRESENTATIVE TWENTIETH CENTURY POETRY AND PROSE

THE MIDDLE AGES (SIXTEENTH AND SEVENTEENTH CENTURIES) POETRY AND PROSE

THE GREAT TRAGEDIES AND COMEDIES OF THE SEVENTEENTH AND EIGHTEENTH CENTURIES

German

101. ELEMENTARY GERMAN. (3) Fundamentals of grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Three lecture hours and one laboratory period of one hour a week.

102. ELEMENTARY GERMAN. (3) *Prerequisite:* German 101. Continuation of German 101. Graded readings. Three lecture hours and one laboratory period of one hour a week.

201. INTERMEDIATE GERMAN. (3) *Prerequisite:* German 102; *or* 2 units of high school German. Germany and its civilization. Three lecture hours and one laboratory period of one hour a week.

202. INTERMEDIATE GERMAN. (3) *Prerequisite: German* 201; *or* equivalent. Graded readings in contemporary prose. Book report on collateral reading. Three lecture hours and one laboratory period of one hour a week.

203. INTERMEDIATE GRAMMAR AND COMPOSITION. (3) *Prerequisite:* German 102; *or* equivalent. Book report on collateral reading. Recommended as preparation for German 301. Three lecture hours and one laboratory period of one hour a week.

205. INTERMEDIATE PRACTICAL GERMAN CONVERSATION. (3) *Prerequisite:* German 202; *or* equivalent. Book report on collateral reading. Three lecture hours and one laboratory period of one hour a week.

301. ADVANCED GERMAN GRAMMAR AND COMPOSITION. (3) *Prerequisites:* German 203 (*or* equivalent), plus one additional German 200 course. For prospective teachers of German and students who want intensive oral and written work in the language. Book report on collateral reading. Three lecture hours and one laboratory period of one hour a week.

303. SURVEY OF GERMAN LITERATURE. (3) *Prerequisite:* German 202; *or* equivalent. Representative readings in poetry and prose from the outstanding German writers to the present time. Book reports. Emphasis on each literary period. Three lecture hours and one laboratory period of one hour a week.

304. SURVEY OF GERMAN LITERATURE. (3) *Prerequisite:* German 303. Continuation of German 303. Book reports. Three lecture hours and one laboratory period of one hour a week.

305. GRADED SCIENTIFIC GERMAN. (3) *Prerequisite:* German 202; *or* equivalent. Graded book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

306. GRADED SCIENTIFIC GERMAN. (3) *Prerequisite:* German 305. Three lecture hours and one labortory period of one hour a week.

326. ADVANCED SCIENTIFIC GERMAN. (3) *Prerequisite:* German 226. Extensive readings of technical and scientific texts

on chemistry, physics, biology, rockets, etc. Reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

Spanish

101. ELEMENTARY SPANISH. (3) Fundamentals of Spanish grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Three lecture hours and one laboratory period of one hour a week.

102. ELEMENTARY SPANISH. (3) *Prerequisite:* Spanish 101. Continuation of Spanish 101. Book reports and graded readings. Three lecture hours and one laboratory period of one hour a week.

201. INTERMEDIATE SPANISH. (3) *Prerequisite:* Spanish 102; *or* 2 units of high school Spanish. Spain and its civilization. Three lecture hours and one laboratory period of one hour a week.

202. INTERMEDIATE SPANISH. (3) *Prerequisite:* Spanish 201; *or* equivalent. Graded readings in Spanish and Spanish-American Literature. Three lecture hours and one laboratory period of one hour a week.

203. INTERMEDIATE GRAMMAR AND COMPOSITION. (3) *Prerequisite:* Spanish 102; *or* equivalent. Recommended as preparation for Spanish 301. Three lecture hours and one laboratory period of one hour a week.

205. INTERMEDIATE PRACTICAL SPANISH CONVERSATION, (3) *Prerequisite:* Spanish 202; *or* equivalent. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

221. CLASSICAL AND CONTEMPORARY SPANISH AND SPANISH AMERICAN LITERATURE. (3) *Prerequisite:* Spanish 202; *or* equivalent. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

222. CLASSICAL AND CONTEMPORARY SPANISH AND SPANISH AMERICAN LITERATURE. (3) *Prerequisite:* Spanish 221. Continuation of Spanish 221. Three lecture hours and one laboratory period of one hour a week.

301. ADVANCED SPANISH GRAMMAR AND COMPOSITION. (3) *Prerequisites:* Spanish 203 (*or* equivalent), plus one additional Spanish 200 course. For prospective teachers of Spanish and students who want intensive oral and written work in the language. Book reports on collateral reading. Three lecture hours and one laboratory period of one hour a week.

302. SURVEY OF SPANISH AMERICAN LITERATURE. (3) *Prerequisite:* Spanish 222; *or* equivalent. Selected readings from the Colonization to the present time. Emphasis on each literary movement. Book reports on collateral reading. Three lecure hours and one laboratory period of one hour a week.

303. SURVEY OF SPANISH LITERATURE. (3) *Prerequisite:* Spanish 222; *or* equivalent. Selected readings from the Middle Ages to the present time. Emphasis on each literary movement. Book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

304. SURVEY OF SPANISH LITERATURE. (3) *Prerequisite:* Spanish 303. Continuation of Spanish 303. Three lecture hours and one laboratory period of one hour a week.

Geography

Instructor GIBBS

101. PHYSICAL GEOGRAPHY. (4) Land forms, mineral resources, climate, vegetation, soils, and water from the point of view of their significance to economic activities. Three lecture hours and one laboratory period of two hours a week.

102. GENERAL GEOGRAPHY. (4) Regional geography dealing with various peoples of the earth and how they and their activities are influenced by topography, climate, and natural resources. Three lecture hours and one laboratory period of two hours a week.

201. ECONOMIC GEOGRAPHY. (4) *Prerequisite:* Geography 101; *or* Geography 102. Ores and mineral body locations, their industrial use and significance with reference to world industry and economic significance. Three lecture hours and one laboratory period of two hours a week.

301. GEOGRAPHY OF LATIN AMERICA. (4) *Prerequisite:* Geography 101; *or* Geography 102. Basic human and physical differences from place to place which affect economic, social, and political conditions. Cultural and economic relations with Europe and the United States. Three lecture hours and one laboratory period of two hours a week.

Geology

Instructor GIBBS

201. PHYSICAL GEOLOGY. (4) The nature and occurrence of rocks and minerals, together with crustal features of the

earth's surface. Emphasis on earth phenomena. Three lecture hours and one laboratory period of two hours a week. Two or more one-day field trips to be arranged.

202. HISTORICAL GEOLOGY. (4) Emphasis on stratigraphic and fossil history of the earth as found in the earth's crust together with the necessary information on both plant and animal kingdoms to trace the evolution of life down through the ages. Three lecture hours and one laboratory period of two hours a week. Two or more one-day field trips to be arranged.

301. MINERALOGY. (4) *Prerequisites:* Chemistry 102; Geology 201. Identification of the common and economically important minerals by means of the physical properties; chemical and blow-pipe tests. Principles of crystallography. Three lecture hours and one laboratory period of three hours a week.

302. GEOMORPHOLOGY. (4) *Prerequisite:* Geology 201. Major earth features and their origin with particular reference to North America. Three lecture hours and one laboratory period of two hours a week.

History and Political Science

Professors Rieke, *Chairman,* Hall, Winningham; *Associate Professors* Abernthy, Blackwelder; *Assistant Professors* Freeman, Morrill, Ploger; *Instructor* Furlow

History

A major in History leading to the B.A. degree consists of 32 semester hours of history, including Development of Civilization (6) and Tutorial in History (2). Related work consists of 15 semester hours in the following recommended fields: economics, political science, literature, philosophy, and fine arts.

101. DEVELOPMENT OF CIVILIZATION. (3) Survey of world civilization from the earliest times to 1660.

102. DEVELOPMENT OF CIVILIZATION. (3) *Prerequisite:* History 101. Survey of world civilization from 1660 until the present.

201. AMERICAN HISTORY. (3) Survey of American history from the earliest times to 1877.

202. AMERICAN HISTORY. (3) *Prerequisite:* History 201. Survey of American history from 1877 until the present.

231. ENGLISH HISTORY. (3) Survey of English history until 1603.

232. ENGLISH HISTORY. (3) *Prerequisite:* History 231. Survey of English history from 1603 until the present.

271. RUSSIAN HISTORY. (3) Survey of Russian history until 1855.

272. RUSSIAN HISTORY. (3) *Prerequisite:* History 271. Survey of Russian history from 1855 until the present.

301. HISTORY OF NORTH CAROLINA. (3) *Prerequisite:* History 201. Emphasis on the colonial developments and on the constitutional, educational and transportation developments of the ante-bellum period.

312. AMERICAN ECONOMIC HISTORY SINCE 1800. (3) *Prerequisite:* Consent of instructor. Development of a national economy, including monetary and banking problems, industrialization, and problems of labor and agriculture.

341. ANCIENT HISTORY. (3) From the earliest civilizations until the fourth century A. D.

342. MEDIEVAL HISTORY. (3) Political and cultural developments from the late Roman Empire until the Renaissance.

To Be Added In 1964-1965:

AMERICAN SOCIAL AND INTELLECTUAL HISTORY
THE FAR EAST IN MODERN TIMES
BRITISH CONSTITUTIONAL HISTORY
TUTORIAL IN HISTORY
RENAISSANCE AND REFORMATION
THE AGE OF ABSOLUTISM

Political Science

A major in Political Science leading to the B.A. degree consists of 26 semester hours of political science, including Introduction to Politics and Political Institutions in the United States (3), The Process of Government in the United States (3), and Seminar (2). Related work consists of 18 semester hours.

201. INTRODUCTION TO POLITICS AND POLITICAL INSTITUTIONS IN THE UNITED STATES. (3) The formal and informal political institutions of the United States in their historical, cultural, and ideological context. The evolution of the modern constitution, co-operative federalism, equal suffrage, and constitutional rights. The making and effecting of public policy.

202 THE PROCESS OF GOVERNMENT IN THE UNITED STATES. (3) *Prerequisite:* Political Science 201. The origin, the making, and the implementation of public policy. Emphasis on the effect of government policy on various interests in society.

251. AN INTRODUCTION TO COMPARATIVE POLITICAL SYSTEMS. (3) *Prerequisite:* Political Science 201. The institutions, politics, and governmental structure of selected foreign governments. Especially the comparison of Great Britain, France, Russia, and Germany.

262. AN INTRODUCTION TO WORLD POLITICS. (3) *Prerequisite:* Political Science 201. Analysis of politics among nations: diplomatic relations, international law, power politics, problems of peace and disarmament, and international organizations.

266. STATE AND LOCAL POLITICS AND POLITICAL INSTITUTIONS IN THE UNITED STATES. (3) *Prerequisite:* Political Science 201. The states in the federal system: their history, constitutions, governmental structure, and relations with other units of government; the problems of urban and suburban areas. Politics and policy formation at each level of government.

302. POLITICS, PARTIES AND PRESSURE GROUPS IN THE UNTED STATES. (3) *Prerequisite:* Political Science 201. Analysis of the structure, role, and techniques of political parties in the United States. The modern political system analyzed as the evolutionary product of the nation's political history. The role of non-party groups in the political process.

353. HISTORY OF POLITICAL THOUGHT. (3) *Prerequisite:* Political Science 201. Major concepts and systems of political thought from Plato to the Seventeenth Century.

354. HISTORY OF POLITICAL THOUGHT. (3) *Prerequisite:* Political Science 353. Continuation of Political Science 353. Major concepts and systems of political thought from the Seventeenth Century until the present. The relevance of political theory to political action.

To Be Added In 1964-1965:

CONTEMPORARY AMERICAN FOREIGN POLICY
PUBLIC ADMINISTRATION
SEMINAR

Mathematics

Professors WAHAB, *Chairman,* GOODRUM[1], PEREL; *Associate Professor* GEORGE; *Assistant Professors* LAWRENCE, MARKHAM, NIXON; *Instructors* BERNSTEIN (*part-time*), MARSHALL, MORROW, WALKER

A student majoring in Mathematics is expected to demonstrate proficiency in advanced algebra and trigonometry to the satisfaction of the Mathematics Department. A student who does not meet this requirement will be expected to take Mathematics 103 and 104, but will receive no credit on his major requirement for it.

A major in Mathematics leading to the B.A. degree consists of 27 semester hours of mathematics, subject to the approval of the department. Related work consists of 18 semester hours.

A major in Mathematics leading to the B.S. degree consists of 40 semester hours of mathematics, subject to the approval of the Mathematics Department. Related work consists of 18 semester hours.

101. ALGEBRA AND TRIGONOMETRY I. (3) Sets, logic, functions, properties of the real numbers, exponential and logarithmic functions, trigonometric functions.

102. ALGEBRA AND TRIGONOMETRY II. (3) *Prerequisite:* Mathematics 101. Complex numbers, systems of equations, trigonometric equations, binomial theorem, permutations, combinations, probability.

103. ALGEBRA. (3) Sets, functions, real numbers, graphs, exponential and logarithmic functions, determinants and matrices, theory of equations, complex numbers, inequalities, mathematical induction and the binomial theorem.

104. TRIGONOMETRY. (3) *Prerequisite or corequisite:* Mathematics 103. Sets, functions, trigonometric functions, identities, trigonometric equations.

141. ANALYTIC GEOMETRY AND CALCULUS I. (4) *Prerequisites:* Mathematics 103, 104 (with minimum grades of C). Limits, continuity, properties of lines and curves in the plane, introduction to derivatives and differentials, introduction to integration.

142. ANALYTIC GEOMETRY AND CALCULUS II. (4) *Prerequisite:* Mathematics 141 (with minimum grade of C). Applications of definite integrals, differentiation and integration of transcendental functions, special methods of integration, improper integrals, approximate integration, indeterminant forms, conic sections, translation and rotation of axes.

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[1] Absent on leave, 1963-1964.

200. CALCULUS REVIEW. (0) Review of Mathematics 141, 142, and 241. (This course will not be offered after the summer session, 1964).

221. INTRODUCTION TO PROBABILITY AND STATISTICS I. (3) *Prerequisite:* Mathematics 102; *or* Mathematics 103. Logic, sets, elementary probability, vectors and matrices.

222. INTRODUCTION TO PROBABILITY AND STATICS II. (3) *Prerequisite:* Mathematics 221. Linear programing, statistics with applications to the life sciences.

241. ANALYTIC GEOMETRY AND CALCULUS III. (4) *Prerequisite:* Mathematics 142 (with minimum grade of C). Polar, cylindrical, and spherical coordinates; parametric equations; introduction to vector analysis; partial derivatives and directional derivative; multiple integrals; infinite series.

242. DIFFERENTIAL AND DIFFERENCE EQUATIONS. (4) *Prerequisite:* Mathematics 241 (with minimum grade of C). Linear differential equations, series solutions, systems of equations, difference equations, numerical methods, introduction to partial differential equations.

322. PROBABILITY AND STATISTICS. (3) *Prerequisite:* Mathematics 241. Sample spaces and random variables, introduction to limit theorems and stochastic process, introduction to estimation and hypothesis testing.

341. ADVANCED CALCULUS I. (3) *Prerequisite:* Mathematics 242 (with minimum grade of C); *or* consent of department. Calculus of vector functions and of scalar and vector fields, implicit functions, Jacobians, line, surface and volume integrals, gradient, divergence, curl, Gauss' theorem, Stokes' theorem, Green's theorem, an introduction to potential theory.

343. INTRODUCTION TO ANALYSIS I. (3) *Prerequisite:* Mathematics 241 (with minimum grade of C). Real and Complex number systems, sets, limits and continuity, differential of functions of one and several variables, applications of partial differentiation.

344. INTRODUCTION TO ANALYSIS II. (3) *Prerequisite:* Mathematics 343. Functions of bounded variation, rectifiability, connectedness, the Riemann-Stieltjes integral, multiple integrals, line integrals, vectors and vector fields, gradient, divergence, curl, Laplacian.

361. LINEAR ALGEBRA. (3) *Prerequisite:* Mathematics 142; *or* consent of department. Algebra and geometry of vector spaces, linear transformations and matrices, linear equations, and characteristic values.

381. FUNDAMENTAL CONCEPTS OF GEOMETRY. (3) *Prerequisite:* Mathematics 142; *or* consent of the department. Foundations of geometry, affine geometry, comparison of Euclidean and non-Euclidean geometries.

To Be Added In 1964-1965:

INTRODUCTION TO ANALYSIS III.
ELEMENTARY FUNCTIONS OF A COMPLEX VARIABLE
MODERN ALGEBRA
ADVANCED CALCULUS II.
INTERMEDIATE DIFFERENTIAL EQUATIONS
INTRODUCTORY TOPOLOGY
SENIOR SEMINAR

Music

Instructor WOODRUFF

101. CHORUS I. (½) Opportunity for students who enjoy singing to gain basic training in the principles of voice production and choral participation in the Charlotte College Chorus. Repertoire of both sacred and secular music. Public appearances through assembly programs, commencement, and radio and television presentations.

102. CHORUS I. (½) Continuation of Music 101.

103. INDIVIDUAL VOICE STUDY. (½) Basic techniques of singing; classification of the voice, breathing, posture, freedom and vitalization of tone, elements of diction, vocalization, simple songs in English and Italian. One hour of practice daily.

104. INDIVIDUAL VOICE STUDY. (½) Continuation of Music 103. One hour of practice daily.

201. CHORUS II. (½) Choral training and chorus presentations with the Charlotte College Chorus.

202. CHORUS II. (½) Continuation of Music 201.

203. ADVANCED VOICE STUDY. (½) Standard classics in English and Italian with additional study of songs in French or German or Spanish. Memorization of basic repertoire with application of sound principles of interpretation. One hour of practice daily.

204. ADVANCED VOICE STUDY. (½) Continuation of Music 203. One hour of practice daily.

301. CHORUS III. (½) Choral training and chorus presentations with the Charlotte College chorus.

302. CHORUS III. (½) Continuation of Music 301.

303. ADVANCED VOICE STUDY. (½) Continuation of Music 204. One hour of practice daily.

304. ADVANCED VOICE STUDY. (½) Continuation of Music 303. One hour of practice daily.

Philosophy

Assistant Professor CORKEY

201. SYSTEMATIC INTRODUCTION TO PHILOSOPHY. (3) The major issues in philosophy. Typical problems, such as moral freedom, the mind-body relationship, and the implications of the sciences. The historic schools of materialism, idealism, realism, and pragmatism described.

203. DEVELOPMENT OF PHILOSOPHY. (3) Historical approach to philosophy through selections from the works of great western thinkers.

205. INTRODUCTION TO LOGIC. (3) Survey of the general principles of deductive and inductive logic and of the nature of scientific method.

301. ETHICS. (3) Survey of development of ethical thought in ancient and modern times, with special reference to such thinkers as Plato, Aristotle, Augustine, Hobbes, Kant, and Mill. A comparative study of the moral standard conceived as Egoism, Happiness, Duty and Self-Realization. Discussions on various practical ethical problems.

Physics

Assistant Professor MACRAE

100. TWENTIETH-CENTURY PHYSICS. (4) Topics include the historical development of the atomic and nuclear view of matter; the nature of light, X-rays, and radioactivity; atomic and thermonuclear energy. Cannot be taken for credit if Physics 211 and 212 have already been taken. Three lecture hours and one laboratory period of two hours a week.

201. PHYSICS FOR ENGINEERS. (5) *Corequisite:* Mathematics 142. Classical topics of general physics, emphasizing modern concepts especially useful in the various fields of engineering. Problem solving and a rigorous mathematical appreciation of all topics. Four lecture hours and one laboratory period of three hours a week.

202. PHYSICS FOR ENGINEERS. (5) *Prerequisite:* Physics 201. Continuation of Physics 201. Four lecture hours and one laboratory period of three hours a week.

211. GENERAL PHYSICS. (4) *Prerequisite:* Mathematics 102; *or* Mathematics 104. The fundamental principles of mechanics, heat, sound, electricity, light, and a survey of modern physics. Emphasis on accuracy in observation and measurements in the laboratory. Three lecture hours and one laboratory period of three hours a week.

212. GENERAL PHYSICS. (4) *Prerequisite:* Physics 211. Continuation of Physics 211. Three lecture hours and one laboratory period of three hours a week.

311. SURVEY OF MODERN CONCEPTS IN PHYSICS. (2) *Prerequisite:* Physics 202; *or* Physics 212. A quantitative analysis of the historical development of the atomic and nuclear view of matter; the nature of light, X-rays, and radioactivity; atomic and thermonuclear energy. Cannot be taken for credit by those with major emphasis in physics. Two lecture hours a week.

312. SURVEY OF MODERN CONCEPTS IN PHYSICS. (2) *Prerequisite:* Physics 311. Continuation of Physics 311. Cannot be taken for credit by those with major or minor emphasis in physics. Two lecture hours a week.

Psychology

Professor DIAMANT; *Instructor* WINDHOLZ

201. GENERAL PSYCHOLOGY. (4) Survey of general psychology as a behavioral science. Three lecture hours and one laboratory period of two hours a week.

203. APPLIED BUSINESS PHYCHOLOGY. (2) Development of an understanding of people. Emphasis on the psychological principles which govern man's adjustment on his job and which promote successful merchandising through advertising and through selling. Studies of the motives which urge men to work and to purchase goods and services. Practical aims are to show how an employee may be aided in becoming adjusted to his job and how to persuade customers to purchase goods and services and be satisfied.

301. SOCIAL PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. The crowd suggestion, the mob mind, conventionality, and custom imitation. Investigation of the psychology involved in compromise, discussion, conflict, and war.

305. THEORY OF PERSONALITY DEVELOPMENT. (3) *Prerequisite:* Psychology 201. Current personality theories. Consideration of psychoanalytic, physiological, trait and factor and perceptual viewpoints in the light of contemporary research.

307. ABNORMAL PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. A history of psychopathology. Case studies, differential diagnosis, psychological dynamics of abnormal behavior, including theoretical, clinical and experimental contributions in the field.

311. CHILD PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. The instincts, emotions, and general tendencies of children up to the age of twelve. Remedial measures suggested in dealing with early child tendencies which might lead to serious difficulty. Special study of at least one child required of each student.

312. ADOLESCENT PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. Developmental and psychological characteristics of adolescence in the light of contemporary society. Research methods and familiarity in case study emphasized.

331. EDUCATIONAL PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. The psychology of learning; problems of adjustment to instructional processes.

Religion

Assistant Professor CORKEY

201. SURVEY OF THE OLD TESTAMENT. (3) Introduction to the literary and historic values of Old Testament literature. Emphasis upon the background, purpose, and content of the writings. English translations.

202. SURVEY OF THE NEW TESTAMENT. (3) New Testament literature in its historic and contemporary background. Emphasis upon the content and purpose of the text. English translations.

Sociology

Professor HARLAN

201. General Sociology. (3) Survey of the field of sociology covering such topics as: social norms and values, status and role, social stratification, crowds and publics, formal and informal groups, urban communities, population, social institutions.

203. General Anthropology. (3) Survey of the field of anthropology: physical anthropology, prehistoric archeology, ethnology, culture theory.

302. SOCIAL PROBLEMS. (3) *Prerequisites:* Sociology 201. Sociological analysis of crime and delinquency, alcoholism, drug addiction, mental disorders, race relations, and problems of populations.

303. SOCIOLOGY OF THE FAMILY. (3) *Prerequisite:* Sociology 201. Analysis of the structure and functioning of the American family and of such related institutional patterns as dating, courtship, marriage, and divorce.

To be added in 1964-1965:

SOCIAL STRATIFICATION
URBAN SOCIOLOGY
SOCIOLOGICAL RESEARCH
INDEPENDENT STUDY IN SOCIOLOGY

Terminal Programs

Assistant Professor Higgins; *Instructors* Dunn, McCreary

Business Administration and Accounting

T101. INTRODUCTION TO ACCOUNTING. (4) Theory of debits and credits; construction of the trial balance, work sheet, income statement, and balance sheet. Problems and materials characteristic of the single proprietorship form of business organization. Payroll accounting. Introduction to the field of data processing and the rapidly increasing role it plays in modern businesses. Three lecture hours and one laboratory period of two hours a week.

T102. INTRODUCTION TO ACCOUNTING. (4) *Prerequisite:* Business Administration T101. Accounting theory and types of internal and external uses of accounting data; valuation of assets and liabilities and determination of income; analysis of financial statements. Emphasis on partnership and corporation organizations. Introduction to job order cost and cost accounting.

Three lecture hours and one laboratory period of two hours a week.

T103. PRINCIPLES OF ADVERTISING. (3) Survey of all forms of advertising. Principles of layout; copywriting; production methods; campaign preparation; media selection.

T104. SALESMANSHIP. (3) Fundamental principles of wholesale and retail selling. Analysis of sales propositions to a qualified customer.

T111. BUSINESS CORRESPONDENCE. (3) Fundamentals of grammar. Vocabulary building. Survey of the various styles of business letters. Emphasis on correctness, concreteness, conciseness, clearness, and character in letter writing. Editing of business materials and proofreading.

T121. BUSINESS MATHEMATICS. (3) Applications of mathematics to typical accounting, financial, and other business problems, including bank discounts, trade discounts, weighted averages, merchandise markup and turnover. Application of compound interest principles to sinking fund and amortization problems. Introduction to payroll accounting computations and income tax accounting for individuals.

T201. INTERMEDIATE ACCOUNTING. (3) *Prerequisite:* Business Administration T102. Review of accounting procedures and consideration of alternative practices with a more detailed study of basic concepts and their applications. Comparative statements and analytical percents and ratios; analysis of working capital; accounting pertaining to capital structure of corporations. Two lecture hours and one laboratory period of two hours a week.

T202. ADVANCED ACCOUNTING. (3) *Prerequisite:* Business Administration T201. Classification and analysis of liabilities; application of accounting principles to income determination and valuation; correction of profits of prior periods, statement of sources and application of funds. Two lecture hours and one laboratory period of two hours a week.

T203. INCOME TAX ACCOUNTING FOR INDIVIDUALS. (3) *Prerequisite:* Business Administration T101. Intensive study of federal and state income tax laws and the preparation of individual income tax returns of all types. Emphasis on preparation of tax returns in laboratory work. Two lecture hours and one laboratory period of two hours a week.

T205. BUSINESS LAW. (3) Main principles of law governing daily conduct of business. Emphasis on negotiable instruments, contracts, formation and legal existence of partnerships and corporations, real property, personal property, insurance, and the development of the Uniform Commercial Code. Discussion of actual cases; the courts and their jurisdiction.

T206. INCOME TAX ACCOUNTING FOR BUSINESSES. (3) *Prerequisite:* Business Administration T203. Income tax laws and the preparation of returns for partnerships, corporations, estates, trusts, and proprietorships. Emphasis on preparation of state and federal returns in laboratory work. Two lecture hours and one laboratory period of two hours a week.

T207. COST ACCOUNTING. (4) *Prerequisite:* Business Administration T102. Introduction to cost accounting procedure and systems. Emphasis on job order and process costs. Laboratory work consists of practice set for each. Brief study of standard cost. Three lecture hours and one laboratory period of two hours a week.

T225. OFFICE SYSTEMS AND AUTOMATION. (3) Basic areas include systems analysis, basic business machines, flowcharting office work, introduction to integrated data processing.

T226. PRINCIPLES OF AUTOMATION AND OPERATIONS RESEARCH. (3) EDP systems, common language media, tools of operations research and examples, programming on two computers.

T227. PERSONNEL MANAGEMENT. (3) Job instruction training to improve the supervisor's efficiency in training personnel; supervisory techniques for the supervisor in developing his ability to lead his personnel more efficiently; planned discussion and demonstrations of tested techniques in solving problems arising from human relations; employment techniques to assist personnel manager in interviewing, testing, making job analyses, and maintaining personnel records.

Business Education and Secretarial Science

T111. BUSINESS CORRESPONDENCE. (3) Same as Business Administration T111.

T155. BEGINNING TYPEWRITING. (3) Mastery of the keyboard. Emphasis on care of machine, its operating parts, simple tabulation, speed and accuracy building. Each student required to reach 40 correct words per minute. No credit given to any student with previous college or high school typewriting.

T156. BEGINNING TYPEWRITING. (3) Emphasis on typing business letters, tabulation, elemental composition at typewriter, speed and accuracy building. Each student required to reach 50 correct words per minute. No credit given to any student with two semesters of college typewriting or two years of high school typewriting.

T157. BEGINNING SHORTHAND. (3) Emphasis on accuracy and form in shorthand penmanship and methods in taking dictation. No credit given to any student with previous college or high school shorthand.

T158. BEGINNING SHORTHAND. (3) Emphasis on accuracy and development of speed in taking dictation. Each student is required to reach a consistent speed of 80 words per minute on new material with 95 per cent accuracy.

T255. ADVANCED TYPEWRITING. (3) Different styles of business letters, business and accounting reports, tabulated material, legal papers, and effective display of typed material. Each student required to reach 60 correct words per minute.

T256. ADVANCED TYPEWRITING. (3) *Prerequisite:* Business Education T255. Simulates office typing by use of practice set. Emphasis on accuracy, typewriter composition, details in making carbon copies, and format in applying for a position in business. Each student required to reach 70 correct words per minute.

T257. ADVANCED DICTATION. (3) Dictation and transcription with a thorough review of shorthand theory. Development of accuracy, speed, neatness, and comprehension. Each student required to reach a minimum of 100 words per minute and maintain consistently a high percentage of accuracy.

T258. ADVANCED DICTATION. (3) *Prerequisite:* Business Education T257. Continuation of the advanced skills in shorthand dictation. Intensive drills in production of mailable transcripts. Each student required to reach a minimum of 120 words per minute and maintain consistently a very high percentage of accuracy.

T261. OFFICE MACHINES. (3) Emphasis on developmental skills in the use of at least four add listing machines, two calculators; accounting, posting, and photocopying machines. Experience gained on duplicating and other machines. Strongly recommended as prerequisite or corequisite to all accounting courses in terminal and university parallel programs.

T262. OFFICE PRACTICE. (3) *Prerequisite:* Business Education 111, 156, 158, and 261. Main phases of office behavior, office methods and procedure, and civil service training. Use of dictating machines and filing equipment. Development of those characteristics and personality traits desirable and essential in the business office.

Review Class for North Carolina Engineering Registration Examination

The forty-two hours of work in this course include a review of the fundamentals of engineering.

Summary of Enrollment for 1962-1963

SUMMER SESSIONS, 1962:	
First Term	419
Second Term	437
SEPTEMBER, 1962	1,188
ADULT EDUCATION, AUGUST, 1962 (Review Class for North Carolina Engineering Registration Examination)	43
ADULT EDUCATION, JANUARY, 1963 (Review Class for North Carolina Engineering Registration Examination)	45

Awards for 1962-1963

THE BONNIE E. CONE AWARD	*Susan Ann Weber*
THE BILL MITCHELL AWARD	*Thomas Click Dutton* *Sandra Louise Hodges*
THE CHEMISTRY AWARD	*Roy David Baucom*
THE MATHEMATICS AWARD	*Billy Ray Isley*
THE PHYSICS AWARD	*Ray Everett Young*

Commencement Marshals 1963

Barbara Jane Banks

Jack Nolan Barnette

Roy David Baucom

Granville Worth Broome, Jr.

Richard Marcus Spittle, Jr.

Linda Ruth Taylor

Glinda Diane Trull

Doris Clinard Weddington
(CHIEF MARSHAL)

Recipients of Associate in Arts Degree

June 2, 1963

David Huggins Allen
Cleatus Barron Bartlett, Jr.
Robert Monroe Brown
Julian Edwin Carnes, Jr.
Loyd Edwin Chambers
James Murray DeYoung, Jr.
Thomas Click Dutton
Roy Thomas Estridge, Jr.
Mary Jane Fisher
Beth Sue Groom
Rupert Theodore Hall
Alice Craddock Harrison
Nancy Elma Helms
Sandra Louise Hodges
Carol Jean Holden
Rufus Ernest Holder, Jr.
Laurent Novikoff Horne
Jean Montgomery Hudgins
Charles Vance Johnson, Jr.
George Manuel Kennedy
Nicolas John Komas
Richard Allen Latty
Rodney Raeford Love
Larry Henry Lynn
John Hunter McCoy
LaVerne McIlwaine
Judith Kay Morgan
William Edward Morrison
Guy Robert Newman, Jr.
Judith Carroll Niedringhaus
Edward Whaley Rion
Franklin Wayne Rogers
Frank Elwood Rohleder, Jr.
Margaret Ellen Ross
Michael Lesesne Sellers
Rasmi Shaban Shalabi
George Orville Simpson
Richard Eric Taylor
Daniel Grover Thigpen, III
Sarah Marie Tucker
Russell Gary Walters
Harry Davis Watson, Jr.
Thomas Jackson Winstead
Reginald Oscar York
Ray Everett Young

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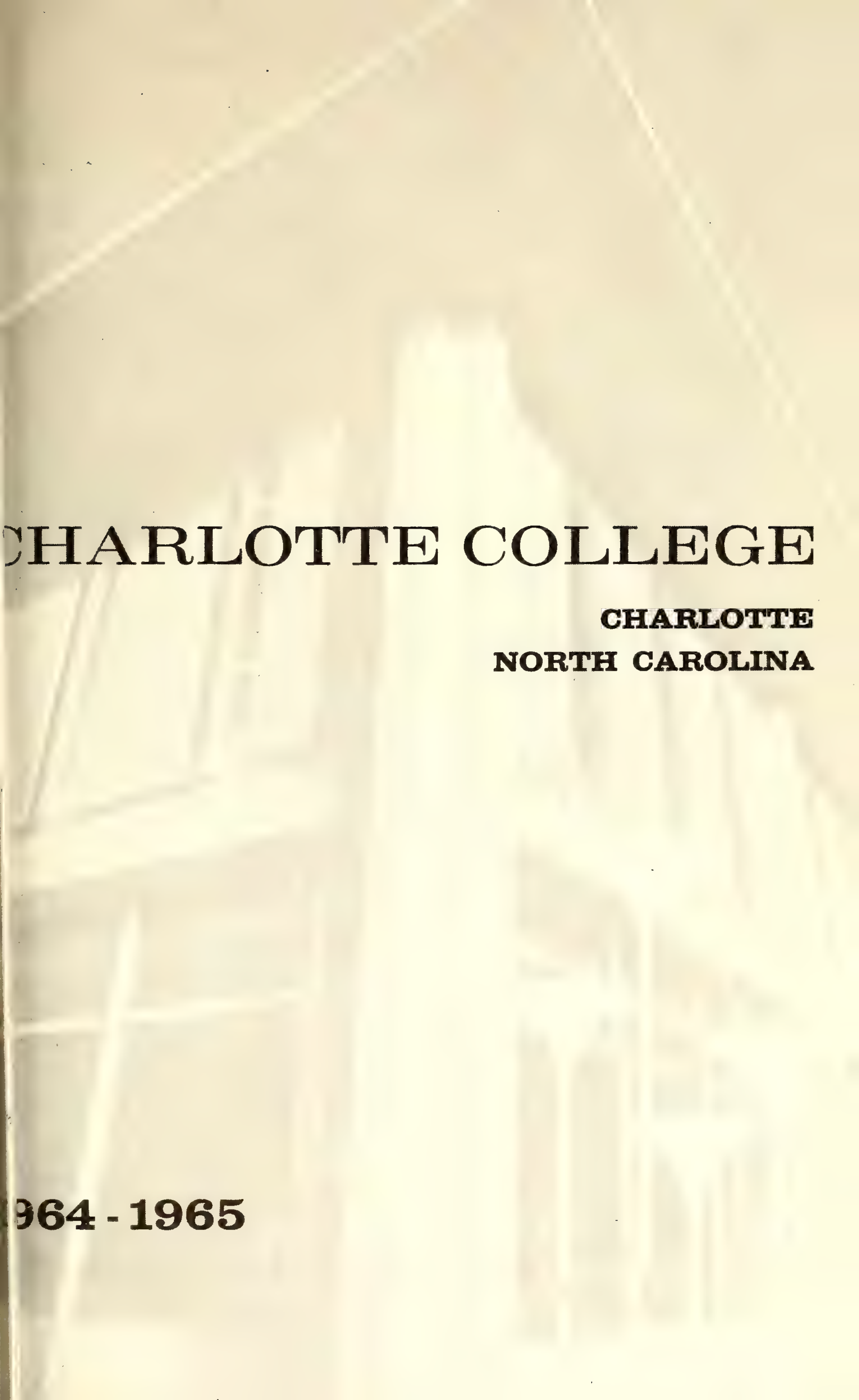
THE CATALOG OF

CHARLO EGE

1964-1965

Mailing Address:

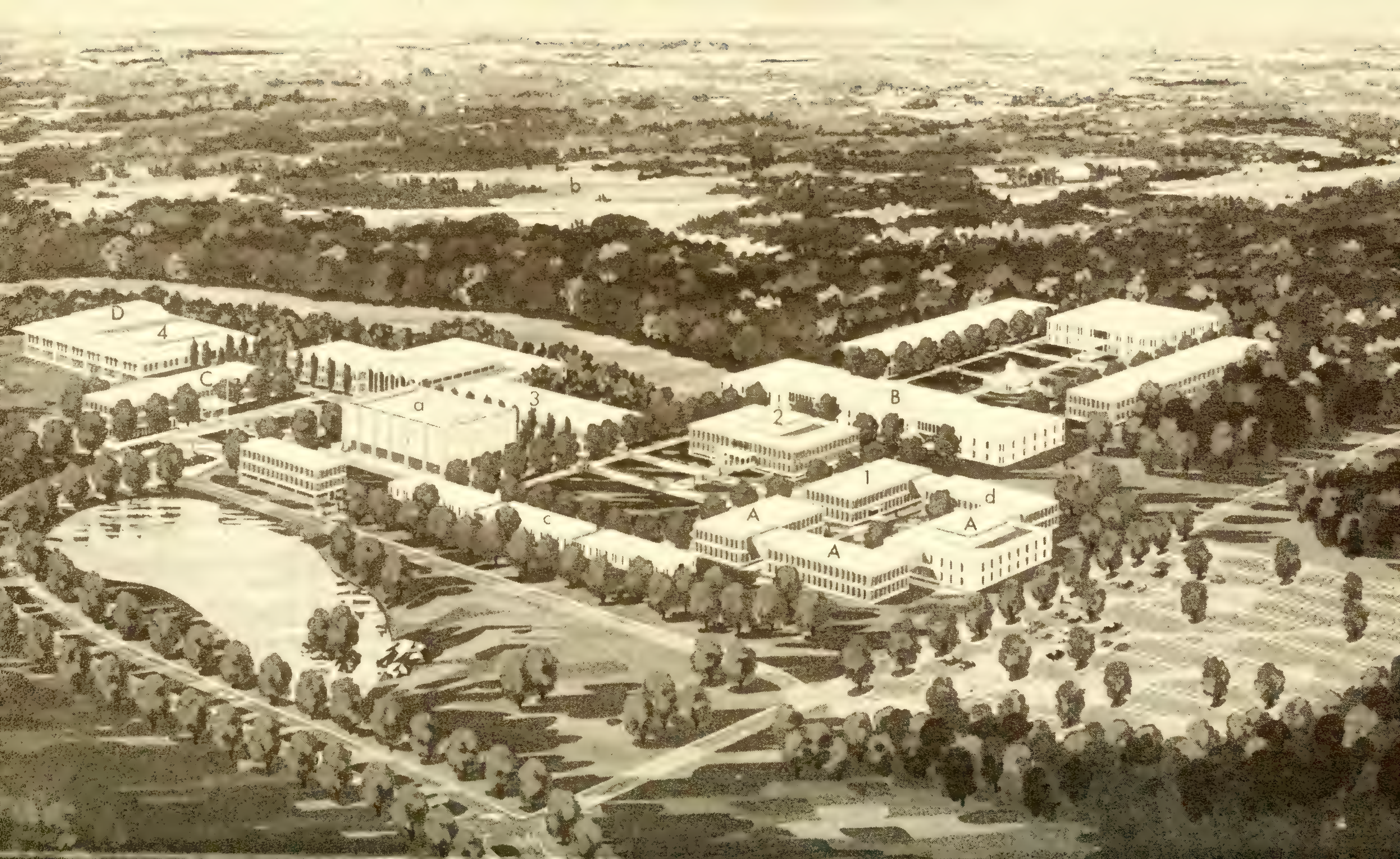
CHARLOTTE COLLEGE
P. O. Box 20428
CHARLOTTE, NORTH CAROLINA 282



CHARLOTTE COLLEGE

CHARLOTTE
NORTH CAROLINA

1964 - 1965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CHARLOTTE COLLEGE CAMPUS

Buildings Now In Use
1—Liberal Arts
2—Kennedy Building
(Science-Engineering)
3—Library (East Wing)
4—College Union (East Wing)

Under Construction This Year
A—Liberal Arts
B—Mathematics-Engineering
C—Administration
D—College Union (West Wing)

Request To 1965 Legislature
a—Auditorium
b—Gymnasium and Playing Fields (Approximate Location)
c—Fine Arts
d—Addition to Liberal Arts

1964

SEPTEMBER

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1965

JANUARY

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MARCH

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JULY

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18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

CALENDAR OF EVENTS

FALL SEMESTER

September	14	Faculty Meeting
	14-18	Orientation of Freshmen and Transfer Students
	15	New students advising
	16	Returning students advising
	17	Freshman Registration
	18	Upperclassman Registration
	21	Classes begin
	25	Last day to *Add* courses for credit
October	9	Last day to *Drop* a course without penalty
November	13	Unsatisfactory Grade Reports
	24	Last day of classes before Thanksgiving holidays
	30	Classes Resume
December	1	File degree application
	18	Last day of classes before Christmas holidays
January	4	Classes Resume
	20	Last day of classes
	22-29	Final Examinations

SPRING SEMESTER

February	2, 3	Orientation of New Students
	4	Advising of Returning Students
	5	Registration
	8	Classes Begin
	12	Last day to *Add* courses for credit
	26	Last day to *Drop* a course without penalty
April	9	Unsatisfactory grade reports
	15	Last day of classes before Easter holidays
	20	Classes resume
May	26	Last day of classes
	27-31	Final examinations
June	1-3	Final examinations
	6	Commencement

SUMMER SESSION, 1965

First Term

June	9	Registration
	10	Classes begin
July	16	Last day of classes
	19-20	Examinations

Second Term

July	21	Registration
	22	Classes begin
August	27	Last day of classes
	30-31	Final examinations

ADMINISTRATION AND FACULTY

BOARD OF TRUSTEES

Thomas M. Belk
J. Ed. Burnside
Dr. Jesse Caldwell
James H. Clark
John L. Fraley
C. Frank Griffin
C. A. McKnight
Addison H. Reese
Oliver R. Rowe
Sheldon P. Smith
Mrs. A. W. Thomas, Jr.
C. H. Wentz

PERSONNEL OF THE COLLEGE

OFFICERS OF ADMINISTRATION

Bonnie E. Cone	*President*
Mark F. Tinkham	*Administrative Assistant*
S. J. McCoy	*Academic Dean*
Kenneth Batchelor	*Business Manager*
Kenneth Sanford	*Public Relations Officer*
L. Robert Grogan	*Director of Admissions and Registration*
Donald M. MacKay	*Coordinator of Student Activities* *Director of College Union*
Mildred E. English	*Director of Student Personnel*
Mary F. Jamison	*Assistant Director of Admissions*
W. L. Yarbrough	*Assistant Business Manager*

OFFICE AND GENERAL STAFF

Betty B. Adkins	*Receptionist*
Carolyn Brooks	*Office of Registration and Admissions*
Jenny G. Brown	*Secretary, Library*
Frances Crenshaw	*Faculty Secretary*
Ina B. Freeman	*Library Assistant*
Odell M. Freeman	*Office of Registration and Admissions*
Kathryn L. Gates	*Library Assistant*
Betty R. Geyer	*Faculty Secretary*
Peggy W. Grant	*Secretary, Academic Dean*
Roberta P. Hon	*Faculty Secretary*
Lois L. Liles	*Business Office*
Pearl G. Lomax	*Faculty Secretary*
Barbara J. Marks	*Office of Registration and Admissions*
Ruth H. McCoy	*Business Office*
Charlene McWhirter	*Business Office*
Linda Patterson	*Business Office*
Juanita Sims	*Secretary, President*
Elsie R. Springer	*Clerk, Library*
Edna Stamey	*Faculty Secretary*
Betty Stewart	*Secretary, College Union*
Virginia N. Waggoner	*Clerk, Library*
Joyce C. Willis	*Office of Registration and Admissions*
Mary F. York	*Clerk, Library*

FACULTY

Abernathy, George R., Jr.	Associate Professor of History *B.A., Sam Houston State College* *M.A., University of Texas* *Ph.D., University of Texas*
Bernstein, Percy L.	Instructor in Mathematics *B.E., Tulane University* *M.A.T., Duke University*
Blachman, William L.	Assistant Professor of Economics and Business Administration *B.S., University of Wisconsin* *M.S., University of Wisconsin* *Ph.D., University of Wisconsin*
Blackwelder, Ruth	Associate Professor of History *B.A., Wittenberg College* *M.A., University of North Carolina*
Burson, S. L., Jr.	Professor of Chemistry *B.S., University of Pittsburgh* *Ph.D., University of Pittsburgh*
Calcote, Lee R.	Associate Professor of Engineering *B.S., Texas Agricultural and Mechanical College* *M.E., Texas Agricultural and Mechanical College* *Ph.D., University of Illinois*
Cheek, W. E.	Instructor in Chemistry *B.S., Appalachian State Teachers College* *M.A., Appalachian State Teachers College* *M.A., George Peabody College for Teachers*
Corkey, W. B. H.	Assistant Professor of Philosophy and Religion *B.A., Queens University* *M.A., University of North Carolina*
Darholt, Jerome	Assistant Professor of Engineering *B.M.E.. North Carolina State College*
Denny, Mary R.	Professor of English *B.A., Salem College* *M.A., Duke University*
Diamant, Louis	Professor of Psychology *B.S., New York University* *M.A., New York University* *Ph.D., Yeshiva University*
Dunn, Dorothy G.	Instructor in Business Education *B.A., Marshall College* *M.A., George Peabody College for Teachers*

ELLIS, SETH H.	ASSISTANT PROFESSOR OF ENGLISH *B.A., University of Delaware* *M.A., University of Missouri* *Ph.D., University of Southern California*
FAHERTY, RODGER	INSTRUCTOR IN SPANISH *B.A., St. Louis University* *M.A., Western Reserve*
FORE, MARY S.	ASSOCIATE PROFESSOR OF ENGLISH *B.A., Winthrop College* *M.A., Columbia University*
FREEMAN, DONALD MCKINLEY	ASSISTANT PROFESSOR OF POLITICAL SCIENCE *B.A., Wake Forest College* *M.A., University of Rhode Island* *Ph.D., University of North Carolina*
FUHRMAN, HARRIETTE	INSTRUCTOR IN ENGLISH *B.A., Maryville College* *M.A., University of North Carolina*
FURLOW, JOHN W., JR.	INSTRUCTOR IN HISTORY *B.A., Middlebury College*
GABRIEL, KARL M.	ASSISTANT PROFESSOR OF GERMAN *Ph.D., University of Vienna*
GEORGE, DICK L.	ASSOCIATE PROFESSOR OF MATHEMATICS *B.S., Oklahoma State University* *Ph.D., Duke University*
GIBBS, C. H.	INSTRUCTOR IN GEOGRAPHY, GEOLOGY *B.S., Syracuse University*
GOODRUM, CLOYD S., JR.[1]	PROFESSOR OF MATHEMATICS *B.A.E., Rensselaer Polytechnic Institute* *M.A., University of North Carolina*
GRAHAM, ELIZABETH M.	REFERENCE LIBRARIAN *B.A., Duke University* *M.A., Duke University* *M.A., University of Denver* *Ph.D., Cornell University*
HALL, JOHN O. P.	PROFESSOR OF HISTORY *B.S., University of New Hampshire* *Ph.D., Columbia University*
HAMPTON, CAROLYN H.	ASSISTANT PROFESSOR OF BIOLOGY *B.S., Appalachian State Teachers College* *M.S., University of Tennessee* *Ph.D., University of Tennessee*

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[1] Absent on Leave, 1964-1965.

HARLAN, HOWARD	PROFESSOR OF SOCIOLOGY *B.A., University of Richmond* *M.A., University of Virginia* *Ph.D., University of Virginia*
HECHENBLEIKNER, HERBERT	PROFESSOR OF BIOLOGY *B.A., University of North Carolina* *M.A., Harvard University* *Ph.D., Harvard University*
HIGGINS, H. T.	ASSISTANT PROFESSOR OF BUSINESS ADMINISTRATION, BUSINESS EDUCATION *B.S.. Presbyterian College* *M.Ed., University of North Carolina*
HOYLE, FRANCES	ASSOCIATE PROFESSOR OF SPANISH *B.A., Woman's College of the University of North Carolina* *M.A., New York University*
JACKSON, WILLIAM E., JR.	INSTRUCTOR IN POLITICAL SCIENCE *B.A., Davidson College* *M.A., University of North Carolina*
JODY, MARILYN	INSTRUCTOR IN ENGLISH *B.A., University of Kentucky*
KIRBY, DOROTHY	INSTRUCTOR IN BIOLOGY *B.A., Atlantic Christian College* *M.A., University of North Carolina*
LAWRENCE, MARTHA	ASSISTANT PROFESSOR OF MATHEMATICS *B.A., Winthrop College* *M.A., Duke University*
MACRAE, ROBERT A.	ASSISTANT PROFESSOR OF PHYSICS *B.S., Davidson College* *M.A., Vanderbilt University*
MACY, PIERRE	PROFESSOR OF FRENCH *Bachelier es Lettres University of Nancy* *Licencie es Lettres University of Dijon* *Docteur es Lettres University of Paris*
MARKHAM, ELEANOR	ASSOCIATE PROFESSOR OF MATHEMATICS *B.A., Duke University* *M.A., Duke University*
MARSHALL, J. RONALD	INSTRUCTOR IN MATHEMATICS *B.S., Appalachian State Teachers College* *M.Ed., University of North Carolina*
MCCREARY, JOHN FRANKLYNN	INSTRUCTOR IN ACCOUNTING, BUSINESS ADMINISTRATION, BUSINESS EDUCATION *B.A., Lenoir Rhyne College*

MEEKINS, ISAAC M.	INSTRUCTOR IN ENGLISH *B.A., Washington and Lee University*
MOOSE, ROY C.	ASSOCIATE PROFESSOR OF ENGLISH *B.A., University of North Carolina* *B.A., Oxford University, Oxford, England* *M.A., Oxford University, Oxford, England*
MORRILL, DAN L.	ASSISTANT PROFESSOR OF HISTORY *B.A., Wake Forest College* *M.A., Emory University*
MORROW, ROBERT	INSTRUCTOR IN MATHEMATICS *B.S., North Carolina State College* *M.S., North Carolina State College*
NIXON, DAVID E.	ASSISTANT PROFESSOR OF MATHEMATICS *B.S., North Carolina State College* *M.S., North Carolina State College*
NORMAN, JOHN H.	PROFESSOR OF CHEMISTRY *B.A., Erskine College* *M.A., University of North Carolina*
PEREL, WILLIAM	PROFESSOR OF MATHEMATICS *B.A., University of Indiana* *M.A., University of Indiana* *Ph.D., University of Indiana*
PLOGER, VERNE R.	ASSISTANT PROFESSOR OF HISTORY *B.G.E., University of Omaha* *M.A., University of Omaha*
RIEKE, R. W.	PROFESSOR OF HISTORY AND POLITICAL SCIENCE *B.A., Carleton College* *M.A., University of Wisconsin* *Ph.D., University of Wisconsin*
SAMAN, PAUL	ASSISTANT PROFESSOR OF FRENCH *Prom. Fil., Charles University in Prague*
SCHERGER, MOZELLE S.	ACTING HEAD LIBRARIAN *B.S., Appalachian State Teachers College* *B.S.L.S., University of North Carolina*
SLECHTA, J. A.	ASSOCIATE PROFESSOR OF FRENCH *B.A., New York University* *M.A., Tulane University* *Ph.D., Tulane University*
STEPHENS, PATRICIA	INSTRUCTOR IN ENGLISH *B.S., Memphis State University* *M.A., University of North Carolina*
STOUGHTON, MAURICE	ASSOCIATE PROFESSOR OF ENGINEERING *B.A., Harvard University* *M.S., Princeton University*

Stovall, Sidney T. — Assistant Professor of English
B.A., Duke University
M.A., University of Michigan
M.A., Columbia University

Tarlton, Shirley Marie — Catalogue Lirbarian
B.A., Queens College

Vilas, Santiago — Instructor in Spanish
Titular Mercantil, School of Business Administration
Journalist, Superior School of Journalism, Madrid, Spain

Wahab, James H. — Professor of Mathematics
B.S., College of William and Mary
M.A., University of North Carolina
Ph.D., University of North Carolina

Walker, Charles M. — Instructor in Mathematics
B.S., Western Carolina College
M.A., University of Kentucky

Wallace, Robert M. — Professor of English
B.A., Wofford College
M.A., University of North Carolina
Ph.D., University of North Carolina

Whitener, J. B. — Assistant Professor of Chemistry
B.A., Duke University
M.A., Duke University

Williamson, Sadie H. — Instructor in Economics and Business Administration
B.A.. Woman's College of the University of North Carolina
M.S., University of North Carolina

Windholz, George — Instructor in Psychology
B.A., City College of New York
M.A., Columbia University

Winningham, Edyth F. — Professor of Political Science
B.A., University of North Dakota
M.A., University of North Carolina

Wubben, W. D. — Professor of Economics and Business Administration
B.Ph., University of Chicago
M.B.A., University of Chicago
Ph.D., The Claremont Graduate School

PART-TIME

Bobbitt, Warren Leslie (second semester) — Psychology
B.S., Northwestern University
M.Ed., University of Virginia
Ed.D., University of California at Berkeley

Copeland, Frank S. — Engineering
B.S.E.E., Clemson College
M.S.E.E., Clemson College

Davis, Charles L. — Physics
B.S.M.E., Lehigh University
M.S.M.E., Lehigh University

Gaskins, Oliver K. (first semester) — Biology
B.S., University of North Carolina
M.Ed., University of North Carolina

Hanes, Robert C. — Education
A.B., University of North Carolina
M.A., University of North Carolina
Ph.D., University of North Carolina

Jackson, Robert A. — Engineering
B.E.E., North Carolina State College

Kent, Kenneth E. — Engineering
B.S.E.E., University of Tennessee
M.S.E.E., Georgia Institute of Technology

Lafferty, Oma (first semester) — Sociology
B.A., Sophie Newcomb College
B.E., Tulane University
M.A.. University of Chicago

McCoy, Doris Christe — English
B.A., Duke University
M.A., Duke University

McNeil, Harry D., Jr. — Chemistry
B.S., Bowdoin College
M.S.Ch.E., University of Maine
Ph.D., Purdue University

Mital, John A. — Engineering
B.S., Virginia Polytechnic Institute
M.S., Virginia Polytechnic Institute

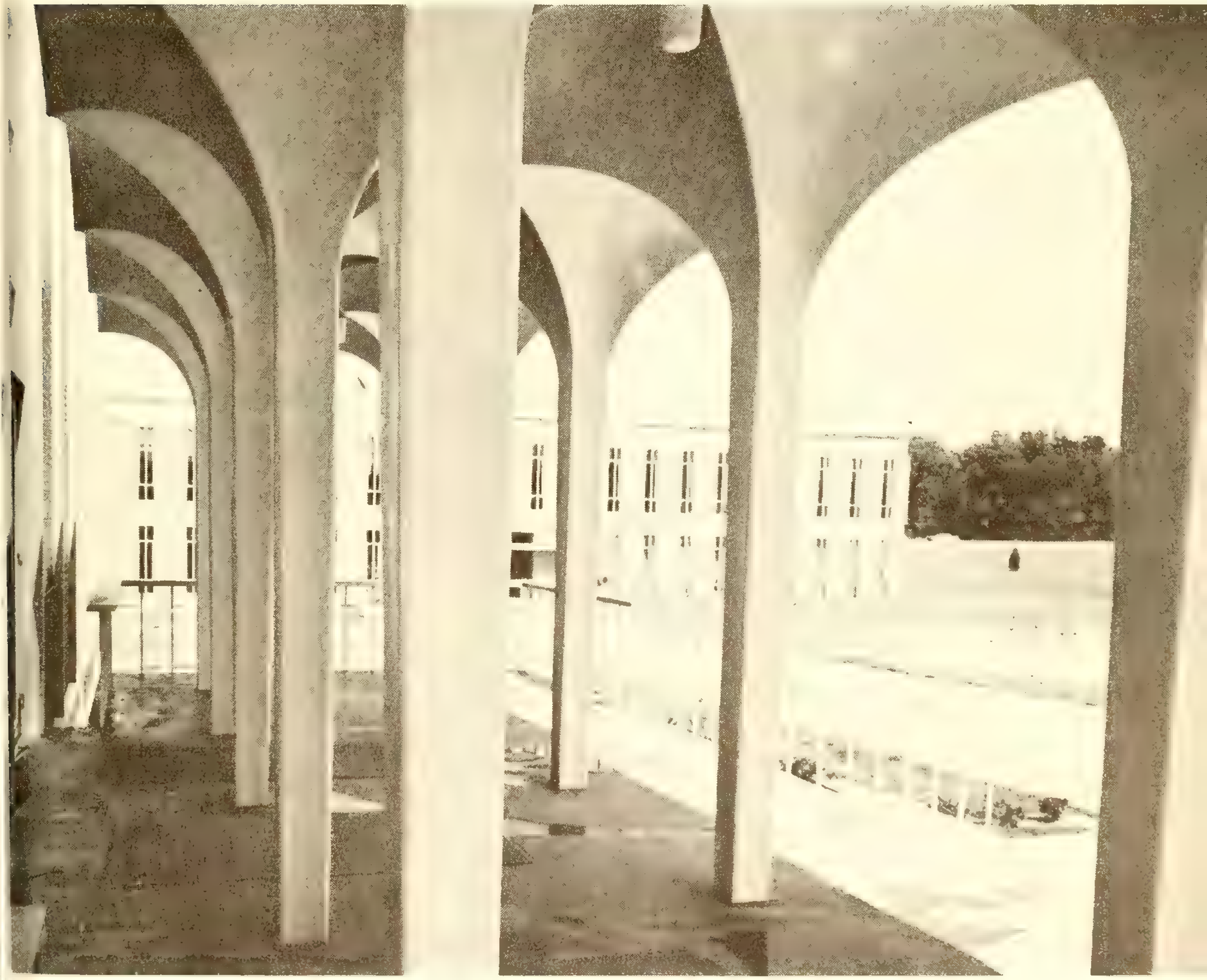
Plybon, Louise M. — Catalogue Librarian
B.S.L.S., George Peabody College for Teachers
B.S., Appalachian State Teachers College
M.S.L.S., George Peabody College for Teachers

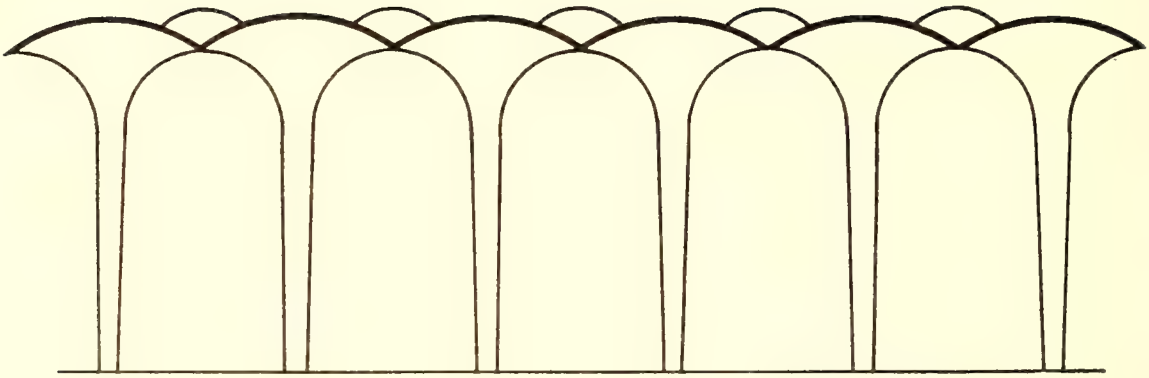
Potts, James M. — Engineering
B.S.M.E., North Carolina State College
M.S.M.E., North Carolina State College

Russell, Luther O., Jr. — Engineering
B.S.M.E., Duke University

Serinken, Sina (first semester) — Engineering
B.S.C.E., Robert College
M.S.C.E., Duke University

SMITH, WILLIAM A.	ENGINEERING *B.S.E.E., Clemson College* *M.S.E.E., Clemson College*
SMITH, WILLIAM M.	GEOGRAPHY AND GEOLOGY *A.B., The Citadel*
STEWART, EVANGELINE	ECONOMICS AND BUSINESS ADMINISTRATION *B.B.A., Wake Forest College* *M.E., University of North Carolina*
SVENSEN, ALF (second semester)	ENGINEERING *B.S.E., University of Michigan* *M.S.E., University of Michigan*
TAYLOR, WILSON R. (first semester)	ACCOUNTING *B.A., High Point College*
WOODRUFF, HARVEY L.	MUSIC *B.S., New York University* *M.A., Columbia University*





GENERAL INFORMATION

OBJECTIVES OF CHARLOTTE COLLEGE

Charlotte College recognizes its responsibility to the state and the individual citizens to provide educational opportunities to meet private and public needs. It feels that these needs include enriched personal living, cultural development, responsible citizenship, and vocational and professional preparation.

Accreditation and Membership

Charlotte College is presently accredited as a junior college by the Southern Association of Colleges and Schools. This continuing accreditation indicates that Charlotte College is making satisfactory progress towards accreditation by the Southern Association as a senior college when it has graduated three senior classes.

In the meantime, Charlotte College has been assured by the universities of our state that its graduates will be considered for admission on the same basis as graduates of accredited institutions. Furthermore, many senior colleges of North Carolina have indicated that they will accept qualified students of Charlotte College who wish to transfer prior to graduation.

Charlotte College is a member of the North Carolina College Conference, the Southern Association of Junior Colleges, and the American Association of Colleges and Schools. The college also holds Affiliate Institutional Membership in the American Society of Engineering Education.

Location

Charlotte College is located on a 917-acre campus eight miles from downtown Charlotte on Highway 49 near its intersection with Highway 29 northeast of Charlotte. With a population of 226,000, Charlotte, in Mecklenburg County (population 304,500), North Carolina, serves as a center of commerce, industry, and culture of an area of twenty-four counties.

History

Charlotte College is brand new as a four-year state college, but it has a rich heritage. It was born in the aftermath of World War II when North Carolina's colleges faced an unprecedented increase in enrollment because of returning veterans. To help solve the problem the North Carolina College Conference and the

State Department of Public Instruction decided in the summer of 1946 to sponsor college centers to provide for first-year college work in Charlotte and in 11 other communities of the state. From the first, the Charlotte College Center was the largest in the state. With the addition of second-year work in the fall of 1947, the enrollment of the Charlotte College Center reached 304, making it larger than all the other college centers combined.

The college centers lost the sponsorship of the North Carolina College Conference in 1949, because the conference believed the emergency in education was over. However, because of the large enrollment at Charlotte College in 1948-49, the Charlotte Board of School Commissioners saw a continued need for such an institution. The board then took steps to provide a permanent college. At the board's request, the 1949 General Assembly passed a bill authorizing the Board of School Commissioners to administer the college as a part of the public school system and to finance the institution by charging the students tuition. At the outset, any additional finances which were needed were to be provided from non-tax monies. If these funds were insufficient, the measure authorized a special election to provide a tax of not more than five cents on the $100. Since it had been apparent for some time that the available income was inadequate, a special tax election was held and approved by the voters of the city of Charlotte on May 18, 1954. This provided a two cents tax on the $100 property valuation for the Charlotte Community College System of which Charlotte College was a part. In 1955, the General Assembly made the first appropriation for support of Charlotte College.

The two-cent city levy was extended county-wide when the citizens of Charlotte and Mecklenburg County gave their approval at the polls on April 26, 1958. This action officially brought the college under the North Carolina community college system, gave it its first board of trustees and made it eligible for annual grants-in-aid from the state.

Mecklenburg County provided the necessary local funds through a November 4, 1958 bond election to assure the college the maximum state grant to enable it to acquire a site and begin its building program. A 270-acre campus on Highway 49, about eight miles from the center of Charlotte, was purchased on February 4, 1959.

A state-wide bond election on October 27, 1959, provided additional capital improvement funds on a matching basis for community colleges. Another Mecklenburg County bond election, on November 8, 1960, assured the Charlotte Community College System the necessary local matching funds to provide classroom, administrative and library facilities. In 1960, the Charlotte Community College Foundation (now the Charlotte College Foundation, Incorporated) was established to enrich and strengthen the college through private sources which will supplement state appropriations and student fees.

In the fall of 1961, the college moved from the old Central High School buildings in the center of Charlotte to the new campus on Highway 49. The college is now operating in four buildings (plus a central heating plant): the Liberal Arts Building, the Kennedy Building (science and engineering), the new Library Building and the new College Union. Expansion of the College Union and construction of three additional buildings are in the process of planning and construction.

In May 1963, the General Assembly of North Carolina granted a charter to Charlotte College as a senior college, for the first time fully state-supported. The Board of Higher Education approved the degrees and curricula proposed by the college. The General Assembly also approved permissive legislation and established guidelines under which Charlotte College could become a campus of the University of North Carolina.

Charlotte College added the junior year in the fall of 1963 with the senior year to be added in 1964.

The college campus now totals 917 acres. This expansion from the original 270 acres was made possible by the gift of 520 acres by the County Commissioners in the spring of 1964 and the purchase of tracts of 123 and four acres by the State of North Carolina in the fall of 1963.

Library Facilities

The Library's open shelf collection totals 36,000 cataloged volumes and 424 periodicals used to support courses offered in the present curriculum. The book capacity of the Library is 130,000 volumes, and the seating capacity is 1,400 students. Pamphlets on vocational and other subjects are in vertical files. Back files of the New York Times, the Charlotte News and the Charlotte Observer are on microfilm. Book stacks and reading areas are integrated into an informal unit with area divisions provided by movable stacks, study carrels, and furniture. In addition to the large reading area provided around the stacks, two seminar rooms, two conference rooms, two classrooms, and a large lecture hall are located on the second floor of the Library. Changing art exhibits are presented in lobby areas.

In addition to the general circulating collection, reserve collections in each subject field are especially selected and kept up to date to supplement classroom instruction.

Students may use the Public Library facilities in Charlotte and Mecklenburg County. This library system contains the third largest collection in the state. The facilities consist of the main library and twelve city-county branches. Students may also obtain research books on an inter-library loan through the University of North Carolina Inter-Library Center.

Counseling and Testing

Each student entering Charlotte College is assigned a faculty advisor, who is usually in the department of the student's major. The advisor is available to assist the student in planning his academic program and approve the courses to be taken each semester. The Dean, the department heads, the Director of Admissions and Registration, and the Director of Student Personnel are also available to provide the student with information on curricula and to aid him in the selection of a major. However, the ultimate responsibility for the selection of courses and compliance with the College requirements for a degree rests with the student.

Students may consult the Director of Student Personnel regarding the choice of a vocation, the selection of curricula, and problems of finance and personal adjustment. Information is available on aptitude and interest tests.

Veterans and War Orphans Education

Charlotte College provides educational opportunities for veterans and war orphans. Veterans seeking training under the provision of Public Law 894 (Federal Educational Rehabilitation Program), or Public Law 550 (Veterans' Readjustment Assistance Act of 1952), and war orphans seeking training under Public Law 634 (War Orphans' Educational Assistance Act of 1956) must enroll for a minimum of fourteen semester hours in order to receive full subsistence. Routines involving letters of eligibility, interruption of training, and the like are handled by the college office. Technical questions relating to the Veterans Administration are referred to the Charlotte Office of the Veterans Administration, which is located at 205 Liberty Life Building, Charlotte, North Carolina, telephone number 376-3692.

Before the time of registration, each veteran or war orphan who wishes to enter Charlotte College should:

1. Make application for admission according to the procedure described on pages 31 to 35 of the catalogue. Forward to the Registrar, transcripts of all previous high school and/or college courses completed before or after induction or as a part of Army or Navy basic training or specialized training program, and also records of courses taken by correspondence through the United States Armed Forces Institute. The latter records may be secured from United States Armed Forces Institute, Madison, Wisconsin. All transcripts and records should be sent directly from the school, college, or other agency to Charlotte College.
2. Make application through the local Veterans Administration Office for a Certificate of Eligibility and Entitlement, or, if the veteran has interrupted his previous training in another institute, for a supplemental certificate of eligibility.

War orphans under Public Law 634 and veterans in training under Public Law 894 or 550 will receive an education and training allowance each month from the Government to meet part of the expenses of their training and living costs. Tuition, fees, books, supplies, and equipment will not be paid by the Government; instead, they will have to be paid out of the monthly allowance. A veteran or war orphan will get his monthly allowance some time after the end of each month of training completed. Before the Veterans Administration can pay him, the law requires a certification from the veteran or war orphan and Charlotte College that he was enrolled in and was pursuing his course during that period.

Veterans and war orphans attending Charlotte College are required to maintain satisfactory academic achievement and attendance.

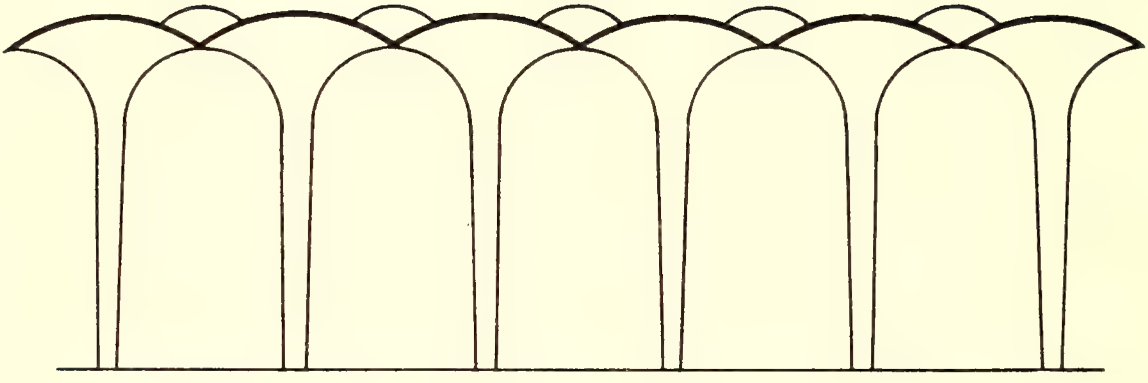
Education For Vocational Handicapped

Men and women who have suffered a disability which renders them vocationally handicapped are eligible for services of the Division of Vocational Rehabilitation. These services include vocational counseling and guidance, medical treatment, training (payments of costs such as books, fees, tuition), and placement. These services are available at no cost to the individual who qualifies.

A Vocational Rehabilitation Officer is available in Charlotte for interviewing applicants. Appointments may be made by telephoning the Vocational Rehabilitation Office, located in Room 206, 517 Insurance Lane, at 375-8686.

Employment Service

The college assists students in securing part-time or full-time employment during their enrollment at Charlotte College and gives special attention to the placement of graduates. Application should be made in person at the office of the Director of Student Personnel.



STUDENT ACTIVITIES

Student Government

Charlotte College desires to encourage and to develop self-government of its students. The Student Government Association was organized in 1946, the first year of the Charlotte College Center, and has continued to function since that time.

The Student Legislature is composed of the president, vice-president, secretary, and treasurer of the Student Government Association, and the president and four representatives of each of the four classes (freshman, sophomore, junior and senior). The functions of these school officers include serving students in every possible way, forming certain committees vital to the Student Government program, and formulating, with the help of the students and faculty, certain school policies.

It is expected by the Student Legislature that students will at all times obey the rules and regulations of the College and the regulations of the Student Legislature. The Student Court is established for the purpose of deciding the appropriate consequences of violations of these rules and regulations, including recommendations to the College Administration when appropriate, whenever they occur. It is through the Student Court that students exercise the privilege of policing themselves.

Athletics

The intercollegiate athletic program consists of competition in basketball, golf, tennis and bowling within the framework of the Dixie Intercollegiate Athletic Conference of which Charlotte College is a charter member. A full schedule of games against other members of the Conference (associated with the National Association of Intercollegiate Athletics) and other four-year institutions throughout the state is played by the Charlotte College Forty-niners. Additional sports are added to the program as facilities and staff become available.

Recreation

An intramural program of activities is developed as facilities become available on campus.

A full program of recreation and entertainment is sponsored by the College Union. This program includes formal and informal dances, coffee hours, movies, picnics, receptions, game nights, and concerts by popular artists. The College Union building, opened in 1963, serves as the center for these programs as well as for the educational-cultural activities planned by the Union.

Publications

Literary Magazine

The Parnassian, a literary magazine, is published by the members of the Writers' Club under the supervision of the English Department. This publication was first issued in the spring of 1957 and has as its aim the promotion of interest in good writing. The broad scope of subject matter gives an interesting presentation of student opinion and sentiment.

Newspaper

To provide information for all persons interested in Charlotte College, the students publish a newspaper, the *Charlotte Collegian.*

The purposes of the newspaper are to create a wholesome school spirit, to support the best traditions of the institution which it represents, to encourage worthy school activities, to promote scholarship, to encourage the ideals of true sportsmanship, and to record the history of the school.

YEARBOOK

Charlotte College's yearbook, *Si Si,* was first published in the spring of 1950. Since then it has greatly increased in size and student interest. The purpose of the yearbook is to present a written and pictorial record of each college year. This publication is supported through advertisements and the Yearbook Fee. Every student who pays this fee is entitled to a copy of the *Si Si.*

Organizations

ACADEMIC

The purpose of the *Charlotte College Chapter of Student National Education Association* is to inform students of the possibilities offered in the field of education, to help them plan their courses of study, and to give them insight into the actual teaching situation. An attempt is made to direct the interest of others toward the teaching profession.

The Charlotte College Engineers' Club was formed in the fall of 1960 to give the student engineer a greater understanding of all phases of engineering. Through the assistance of the Charlotte Engineers' Club, examples of emerging engineering theory are presented in the form of practical applications.

The *Collegiate Council for United Nations* seeks through discussion groups and inter-campus meetings to gain an understanding of the activities of the United Nations and of the problems facing its member nations. Its broader purpose is to encourage student interest in international affairs.

Its membership is open to all students, and foreign students are particularly urged to take part in the activities of the Council.

Le Cercle Francais, the French Club, is open to all students interested in the language, customs and culture of the French people. Social and educational meetings are held for the purpose of broadening the members' knowledge of the French civilization and increasing their conversational ability in the French language.

El Club Espanol is open to students interested in fellowship and conversation in Spanish. The meetings are informal and are usually conducted in both Spanish and English. Frequently Spanish speaking guests talk to members of the club about the Hispanic countries. The students also participate in the presentation of plays, songs, dances, and films.

HONORARY

Phi Theta Kappa is a national honorary scholastic society. Its object is to promote scholarship, to develop character, and to cultivate fellowship among students in the junior colleges of America. The Charlotte College chapter, *Iota Lambda,* was established in May, 1957. Students who display good moral character and, at the time of election, are within the scholastic upper ten per cent of the regularly enrolled student body are normally eligible for membership.

Sigma Tau Sigma is the national honorary fraternity recognizing excellence in social science. The Charlotte College chapter, *Alpha,* was established in May, 1957, and is open to students displaying interest and achievement in the social sciences.

SERVICE

Circle K is a men's service organization that seeks to develop activities that will be of significant value to the college. Students may ask to join Circle K or they may be asked by other Circle K members to become affiliated, The Charlotte College Chapter is sponsored by the Mecklenburg Kiwanis Club.

LITERARY

The Writers' Club has as its purpose the discovering and developing of talent sufficient to provide a genuine support toward the production of a literary magazine. Students showing an interest in writing are invited to become members of the Writers' Club.

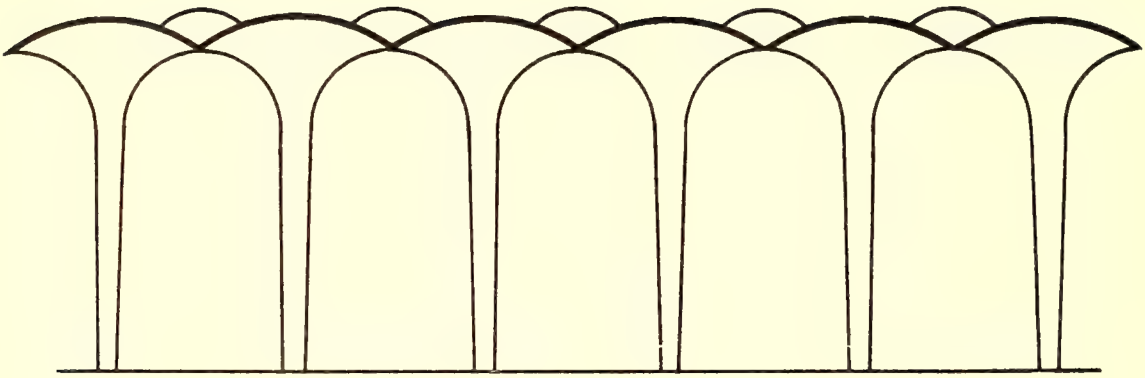
MUSICAL

The Charlotte College Chorus, which was re-organized in 1956, has added much to the atmosphere of the school. The members of this group meet weekly with a dual purpose of enjoying singing together and improving their musical abilities. The Chorus furnishes musical programs for special events during the year. One semester hour of credit may be earned for each semester of participation. Only four semester hours may be credited toward a degree.

ADVISORY

The *Freshman Advisory Committee* was established at Charlotte College during the fall quarter, 1957. There is a dual purpose for this committee: to orient new students in the way of Charlotte College and to assist the faculty advisors in guiding their students.

More than one hundred students are selected by the Student Council to serve on this committee.



GENERAL REGULATIONS

Requirements for Admission

FRESHMAN STANDING

Formal application for admission to freshman standing is made by submitting

1. Personal data requested on the application form which may be obtained from the Charlotte College office.
2. Record of satisfactory high school or preparatory school achievement. Such achievement is indicated by
   - (a) the completion of an accredited four-year high school or preparatory school course, or its equivalent, which ordinarily means graduation;
   - (b) sixteen acceptable units as outlined on the following pages.
3. Satisfactory scores on the Scholastic Aptitude Test of the College Entrance Examination Board.

Admission to candidacy for any Bachelor's degree requires the student to present a certificate of graduation from an accredited school or to take specified examinations. A student should present at least 16 acceptable units of credit. The prescribed units presented for admission are determined by the program the student wishes to enter—regular college, university parallel, or terminal.

Prescribed courses for admission to candidacy to the Bachelor of Arts and Bachelor of Science degrees are:

English	4 units
Algebra	1½ units
Plane Geometry	1 unit
(Solid Geometry for Chemistry and Math)	
Foreign Language (2 years in 1 language)	2 units
United States History and Social Science	2 units
Natural Science (1 year with laboratory)	1 unit
Electives	4½ units

Only 3 units of the 16 units can be in non-academic or vocational subjects (such as home economics, agriculture, shorthand, typewriting, and bookkeeping).

Prescribed courses for admission to candidacy for the Bachelor of Science in Engineering degrees are:

English	4 units
United States History and Social Science	1 to 2 units
Algebra	1½ to 3 units
Plane Geometry and Solid Geometry	1 to 1½ units
Natural Science	1 to 2 units
Electives	3½ to 7½ units

Only 3 units of the 16 units can be in non-academic or vocational subjects (such as home economics, agriculture, shorthand, typewriting, and bookkeeping).

Students majoring in Engineering, Chemistry, and Mathematics are required to present Solid Geometry with a minimum grade of C.

Deficiencies in Admission

A student who enters with deficiencies in foreign language may remove these deficiencies by taking prescribed courses without credit at Charlotte College.

Students who are deficient in English may remove deficiencies elsewhere with approval, but can do so only during the summer at Charlotte College.

For the academic school year of 1964-1965, students entering with deficiencies in mathematics will be given until September 1965 to remove these deficiencies at Charlotte College. After September 1, 1965, students will not be admitted with deficiencies in mathematics.

Terminal Curricula

The prescribed course requirements for admission to the terminal curricula in Business Administration and Accounting or in General Business and Secretarial Science are:

English	4 units
Mathematics	1 to 2 units
United States History and Social Science	1 to 2 units
Natural Science	1 unit
Electives	7 to 9 units

College Entrance Examination

All candidates for admission will be required to present satisfactory scores on the Scholastic Aptitude Section of the College Entrance Examination.

Arrangement for these tests is the responsibility of the applicant and should be made with the College Entrance Examination Board, Post Office Box 592, Princeton, New Jersey, not less than one month before the date of the test. On the application for the test the student shoud specify that the scores be sent to the Registrar, Charlotte College, Post Office Box 20428, Charlotte, North Carolina 28202.

College Entrance Board tests are given at a large number of examination centers throughout the United States, including Charlotte, on:

May	2, 1964	March	6, 1965
July	8, 1964	May	1, 1965
December	5, 1964	July	14, 1965
January	9, 1965		

Advanced Placement Course Credit

Any student may apply for course credit in appropriate subjects if he has had an Advanced Placement Course in secondary school (or equivalent) and has received a score of four or five on the Advanced Placement Test. These tests are given in May of each year by the College Entrance Examination Board.

Requirements for Admission

ADVANCED STANDING

A student transferring to this institution from another college or university must fulfill the requirements for admission to the freshman class, including high school transcript and College Board Examination scores. The student should present an official transcript of record from each college previously attended showing honorable dismissal. Recommendations should be sent from each institution previously attended. Applicants may be asked to take special tests as a condition of admission.

Transfer students entering Charlotte College after attending a junior college will receive no more than 66 semester hours transfer credit (including two semester hours of physical education) toward the Bachelor of Arts degree and no more than 70 semester hours transfer credit (including two semester hours of physical education) toward the Bachelor of Science and Bachelor of Science in Engineering degrees.

A grade of C is required on each course for which transfer credit is given. A course passed with the lowest passing grade at another institution does not give hours credit toward graduation, but it may be used to satisfy a subject requirement of Charlotte College.

Requirements for Continued Enrollment

The admissions committee may drop from Charlotte College any student who is not making satisfactory progress.

A student whose quality point ratio for one semester is less than 1.25 on all hours attempted will be placed on academic probation. If his quality point ratio on all hours attempted is less than 1.25 in each of two consecutive semesters of his enrollment, he will be ineligible to continue at Charlotte College.

At the end of the semester in which a student's earned semester-hour total reaches 25 semester hours, he must have at least a 1.5 overall quality point ratio on all hours attempted in order to continue his enrollment at Charlotte College.

At the end of the semester in which a student's semester hour total reaches 52 semester hours, he must have at least a 1.75 overall quality point ratio on all hours attempted in order to continue his enrollment at Charlotte College.

After this point, a student is expected to make at least a 2.0 quality point ratio for each semester. A student at this level who makes less than a 2.0 ratio in any given semester will be placed on academic probation. If he makes less than a 2.0 ratio in two successive semesters, he will be ineligible to continue at Charlotte College.

At the end of the semester in which a student's semester hour total reaches 90 semester hours, he must have at least a 1.9 overall quality point ratio on all hours attempted in order to continue his enrollment at Charlotte College.

Requirements for Readmission

Students entitled to honorable dismissal and in good standing who were previously enrolled at Charlotte College, but who did not complete the previous semester at Charlotte College should apply for readmission. If students have earned credits at another college or university since last attending Charlotte College, they must submit an official transcript of credit from that institution for consideration for readmission.

Irregular Standing

UNCLASSIFIED STUDENT

Students in this classification must meet the same entrance requirements as regular students in order to earn college credits. As a rule, unclassified students must have the approval of the head of the department in which the courses are to be taken. Such students are to abide by the same regulations as regular students. If, at a later date, an unclassified student changes to regular status, the credits earned while he was unclassified will be accepted only if he has satisfactorily completed the proper prerequisites.

SPECIAL STUDENT

Students who do not wish to earn degree credit because of admission requirements, personal objectives, or other irregularities in qualifications may enroll as special students. Such students who wish to *audit* courses may be admitted when space in the class or classes permits.

Registration for Credit

Registration for credit in any course is limited to the first week of the semester. No credit will be given to a student for a course unless he is properly registered for it.

Course Load

Five subjects of not less than fifteen semester hours total constitute a normal full college program, but a student may register for less work. Course load is dependent on two factors: the scholastic ability of the student as reflected by his scholastic record, and available study time. A student whose part-time employment totals 20 hours a week must receive permission from his advisor to register for more than three courses a semester. A student working 40 hours a week must receive permission from his advisor to register for more than two courses a semester.

Changing or Dropping A Course

In order to change or drop a course, a student must secure written permission from his advisor and the Registrar. No student will be permitted to change a course after the first week of a semester.

A student who drops a course after the period allowed for dropping will receive a grade of F in that course unless he presents to the Administrative Committee, in writing, an acceptable reason for dropping.

Selection and Changing of Curriculum

Each candidate for a degree at Charlotte College must, at the time of entrance, apply for and be admitted to a specific degree curriculum. For the Bachelor of Arts and Bachelor of Science degrees, students must declare their choices of majors not later than the second semester of their sophomore year. A student can change from one degree or one major to another only with the recommendation of his advisor and the approval of the Academic Dean.

Withdrawal

Any student who leaves the college, except after the close of a semester, without written notification to the office, will receive a mark of F in all courses.

Schedule of Classes

Day classes are scheduled from 8:30 a.m. until 4:30 p.m., Monday through Friday.

Evening classes are scheduled from 5:00 p.m. until 10:00 p.m., Monday through Friday.

Attendance

Each student is required to attend all sessions of the courses in which he is enrolled because he is held responsible for all assignments, including tests. No class cuts are allowed and no make-up tests are given.

Even in the event of personal illness or other unavoidable circumstances, no student will be given credit for any course unless he has attended at least 75 per cent of the total class hours of instruction.

Parking

Parking is restricted to faculty and students as outlined in the Student Handbook. Automobiles must be registered with Charlotte College.

Grading

The unit of measurement of college work is the semester hour. It represents one lecture hour per week for one semester. Two laboratory hours are considered to be equivalent to one lecture hour.

Letters are used to indicate the quality of work done. Each letter carries a quality point value for each semester hour of work attempted. The meaning of each letter with its accompanying quality point factor is:

LETTER	DESCRIPTION	QUALITY POINTS PER SEMESTER HOUR
A	Excellent	4
B	Good	3
C	Fair	2
D	Passing	1
F	Failing	0
I	Incomplete	0
W	Official Withdrawal	0

Quality Point Ratio

A student's quality point ratio is determined by multiplying the quality point factor for each grade by the number of hours received in that course and adding all accumulated quality points together, then dividing by the total number of hours the student has attempted, except those for which the student has received a grade of W.

Grade of I

The grade of I is assigned at the discretion of the instructor when a student who is otherwise passing has not completed all the work in the course. The missing work must be completed by the end of the following semester. If the I is not removed during the specified time, a grade of F is automatically assigned.

Grade of W

The grade of W will be given for a course which is dropped on or before the last day to drop a course without failure. Courses given a grade of W do not count as hours attempted. If a student drops a course after the last day to drop a course without failure he will be given the grade of F unless the administrative committee feels that circumstances do not justify this penalty, in which case the grade of W will be given. If a student drops a course unofficially, he will be given a grade of F.

Requirements for Graduation

A minimum of 126 semester hours of work is required for graduation with a baccalaureate degree. For information on four-year degrees see pages 49 through 59.

A minimum of 60 semester hours of work is required for graduation with an Associate in Arts Degree. For information on two-year degrees see pages 59 through 61.

Residence Requirements

The minimum residence requirement for a Bachelor's Degree at Charlotte College specifies that a student must earn at least the last 30 semester hours at Charlotte College. At least the last 12 semester hours of the work in his major field must be earned at Charlotte College.

The minimum residence requirement for the Associate in Arts Degree at Charlotte College is 30 semester hours.

Transcripts of Records

Upon request of the student, a transcript of academic credits earned at Charlotte College will be sent to any other college or university.

Each student is entitled to one official transcript of his work, provided that all accounts with the college have been settled satisfactorily. A student requesting an additional transcript should enclose one dollar for this service.

Expenses

TUITION

The tuition fee is six dollars per semester hour for residents of North Carolina and twelve dollars per semester hour for non-residents. The trustees have ruled that a student whose supporting parent (or guardian) has not been a *bona fide* resident of the State of North Carolina for more than six months immediately preceding the day of his first enrollment in the institution shall be termed an out-of-state student with the following exceptions:

1. A student over twenty-one years of age at the time of his first matriculation who has resided in North Carolina for more than one year other than by virtue of attendance at another college or on temporary military assignment, preceding the day of his first enrollment.
2. A student whose supporting parent is a regular employee of the Federal Government stationed in the State of North Carolina.
3. A student whose supporting parent is a regular employee of the Federal Government who is employed outside of the State, but who through law is permitted to retain his North Carolina citizenship.

The furnishing of incomplete or incorrect information regarding residence may result in the student's dismissal from college. The Registration Office determines each student's residence status on the basis of existing information and interpretation of regulations.

Application Fee

Applicants for admission are required to submit a $10 application fee with the application form. The fee will be applied to the student's bill in the semester for which application is made. The fee is not refunded to those who fail to complete their applications, those who are accepted and fail to enroll, and those denied admission.

Late Application Fee

A non-refundable processing fee of ten dollars will be charged for making or completing applications after

September 1 for the fall semester and after January 15 for the spring semester.

Late Registration Fee

A non-refundable fee of ten dollars will be charged for those registering after the designated registration day each semester.

Laboratory Fees

Each student taking a laboratory course or a course requiring special equipment must pay in addition to tuition, a fee to help meet the cost of conducting the laboratory or course.

Courses requiring a fee of five dollars are:

Botany 101
Botany 201
Botany 301
Botany 302
Botany 303
Business Administration T101
Business Administration T102
Business Administration T201
Business Administration T202
Business Administration T203
Business Administration T206
Business Administration T207
Geography 101
Geography 201
Geography 301
Geology 201
Geology 202
Geology 301
Geology 302
Physics 100
Physics 201
Physics 202
Physics 211
Physics 212
Psychology 201
Zoology 101
Zoology 201
Zoology 301
Zoology 310

Courses requiring a fee of ten dollars are:

Chemistry 101
Chemistry 102
Chemistry 201
Chemistry 202
Chemistry 203
Chemistry 204
Chemistry 301
Chemistry 302
Chemistry 303
Chemistry 304
Chemistry 401
Chemistry 402
Chemistry 403

Courses requiring a fee of fifteen dollars are:

Civil Engineering 201
Civil Engineering 202
Elec. Engineering 101
Elec. Engineering 102
Elec. Engineering 201
Elec. Engineering 202
Elec. Engineering 301
Elec. Engineering 302
Elec. Engineering 305
Elec. Engineering 314
Mech. Engineering 101
Mech. Engineering 102
Mech. Engineering 357
Mech. Engineering 358
Mech. Engineering 359
Mech. Engineering 360

Student Activity Fee

The student activity fee provides a package of entertainment, cultural, and recreation activities. This fee of thirteen dollars for the fall semester and seven dollars for the spring semester is required of each student. This fee provides free admission to most of the college athletic contests, dramatic productions, College Union activities, social and entertainment functions sponsored by Charlotte College and subscriptions to the college newspaper, annual, and literary magazine.

Graduation Fee

All members of the graduating class must pay a graduation fee of eight dollars at the beginning of the spring semester of the year in which they expect to graduate. This fee includes the cost of the diploma and the rental of the cap and gown.

Payment of Fees

All charges of tuition and fees are due and payable on the day of registration. Checks and money orders shoud be made payable to Charlotte College.

Refunds

The registration fee is not refundable.

In case of withdrawal from college during the semester, the refund schedule below applies. It is calculated beginning with the day immediately following the last scheduled day of registration.

Period of elapsed time	*Per cent of refund*
First 10 days	80
Second 10 days	60
Third 10 days	40
Fourth 10 days	20
After 40 days	NONE

Refunds are made as of the date a student files his intention or desire to drop a course, not the date of the last class attended.

Estimated Total Expenses

The estimated total expenses for the academic year at Charlotte College are:

DESCRIPTION	FALL SEMESTER	SPRING SEMESTER	TOTAL
Tuition for 15 semester hours	$ 90	$ 90	$180
Registration Fee	10	10	20
College Union Building Fee	10	10	20
Student Activity Fee	13	7	20
Total	$123	$117	$240

Not included in the estimated expenses are courses which require laboratory fees ranging from five to fifteen dollars.

Engineering students can expect to pay approximately twenty-five dollar more each semester.

The estimated average cost of books and supplies per semester is forty of fifty dollars. Beginning engineering students may expect an additional cost of fifty-five dollars for drawing instruments, a slide rule, and supplies.

Financial Assistance

The Charlotte College Emergency Loan Fund was established in 1958 to provide funds which students may borrow for short-term emergencies. Students may borrow up to $25 for 30 days. There is a $.25 service charge, but no interest is charged on the loan.

The Charlotte College Student Loan Fund provides loans of up to $100 for a year at an interest rate of 3 per cent per annum.

The National Defense Student Loan Fund is available at Charlotte College. Full-time students in need of financial assistance may borrow up to $1,000 each year for college-related expenses such as tuition, fees, books, and transportation. The interest rate is 3 per cent per annum, but no interest is charged while the student is enrolled as a full-time student at Charlotte College. Loans must be repaid within 10 years.

Prospective Teachers Scholarship Loan Fund provides funds for 300 prospective teachers each year. The loans are made in the amount of not more than $350. The fund is administered by the State Superintendent of Public Instruction, Raleigh, North Carolina. All scholarship loans are evidenced by notes which bear interest at the rate of 4 per cent per annum from September 1 following fulfillment by a prospective teacher of the requirements for a teacher's certificate based upon the bachelor's degree. Scholarship loans, together with 4 per cent thereon, *may be cancelled by teaching one full year in North Carolina for each annual scholarship received.* Consideration for a scholarship loan is given to the aptitude, purposefulness, scholarship, character, and financial need of the applicant. For detailed information about the program, write to Prospective Teachers Scholarship Loan Fund, State Department of Public Instruction, Raleigh, N. C.

Other Loan Funds are made available by clubs and individuals. These include the Charlotte Kiwanis Club Loan Fund, the Lions Club Loan Fund, the Rotary Club Loan Fund, the Annas Loan Fund, and the Ebersole Fund.

Application blanks and details on loan funds may be obtained from the Director of Student Personnel, Charlotte College Post Office Box 20428, Charlotte, North Carolina 28202.

How To Apply for Aid

Financial assistance is available to Charlotte College students in several forms: scholarships, grants-in-aid, loans, and part-time employment. The College makes every effort within the limits of its available resources to encourage and assist students with seriousness of purpose to secure a college education. A financial problem should not deter a student from submitting an application for admission.

HOW TO APPLY

1. Each applicant for financial aid must complete all admission requirements before his application can be reviewed by the College Committee on Scholarships and Student Aid.

2. Applications shoud be submitted before February 1, 1965, for financial aid for the academic year 1965-1966. However, applications will be considered throughout the year if funds are available. Applications of entering freshmen will be considered during the fall semester, 1964.

3. Further information, personal counseling, and application forms may be obtained from the Director of Student Personnel or from the Chairman of the College Committee on Scholarships and Student Aid, Charlotte College P. O. Box 20428, Charlotte, North Carolina 28202.

Once a student has filed a formal application for financial aid, he will be considered for all available scholarships, grants-in-aid, or loans. The College seeks to assign the kind of aid best suited to the needs and qualifications of the applicant. In general the awards are approved in amounts proportionate to the demonstrated need of the student and his satisfactory record of achievement and school citizenship. The average grant provides tuition and fees, approximately $250.

Renewal of financial aid is based upon a student's making a clearly satisfactory record. After enrollment, the student should make application at the end of each school year for financial aid in the next year.

This year the state of North Carolina is making available a sum of money to be used for grants to deserving students.

Scholarships

Altrusa Club of Charlotte
American Business Women's Association
  Charlotte Chapter
  Mecklenburg Chapter
  Queen Charlotte Chapter
J. Murrey Atkins
Barringer Woods Woman's Club
Brycie Baber
Charlotte Association of Insurance Women
Charlotte Board of Realtors
Charlotte Chapter, National Association of Accountants
Charlotte Civitan Club
Charlotte *News*
Charlotte *Observer*
Charlotte Optimists Club
Charlotte Woman's Club
Concrete Supply Company of Charlotte
Concrete Materials, Inc.
Corporate Insurers Service, Inc.
Charlotte Sales and Marketing Executives, Inc.
Cliff M. Westbrook
Daughters of the American Revolution,
  Mecklenburg Chapter
Fidelis Bible Class, Myers Park Baptist Church
Arthur P. Harris
Harrison-Wright Company
Drs. Aubrey and Cecil Hawes
Jefferson Standard Foundation
Junior Achievement
Mecklenburg Kiwanis Club
Mumaw Engineering
Mecklenburg Pharmaceutical Society Auxiliary
*Mitchell and Becker
North Carolina Professional Engineers' Society,
  Piedmont Chapter
North Carolina Professional Engineers' Society,
  Piedmont Chapter, Ladies' Auxiliary
Panhellenic Congress of Charlotte
Pepsi Cola Company of Charlotte
Phi Theta Kappa, Charlotte College Chapter

Pilot Club
Professional Construction Estimators' Association
Cecil Prince
Quota Club of Charlotte
Earl Whitton
Mr. and Mrs. J. L. Winningham
Woman's Allied Auxiliary, Motor Carriers' Association
*Robert F. Noland

Awards

The Bonnie E. Cone Award is given annually to a freshman student who has demonstrated fine college spirit and made a significant contribution to college life.

The Bill Mitchell Award. Two members of the graduating class who have shown outstanding qualities of scholarship and leadership and maintained an attitude of unselfish interest in the welfare of their fellow students and of the college as a whole are selected for the award.

The Chemistry Award is presented annually to the student with the highest scholastic average in freshman chemistry.

The Mathematics Award is given annually to the student whose achievement in mathematics during his freshman year is judged most outstanding.

The Physics Award is given annually to the outstanding student in introductory physics.

The Charles A. Reap Award for Special Attainment in Accounting, given annually, is made possible through the generosity of Mr. Charles A. Reap of Albemarle, N. C.

Honors

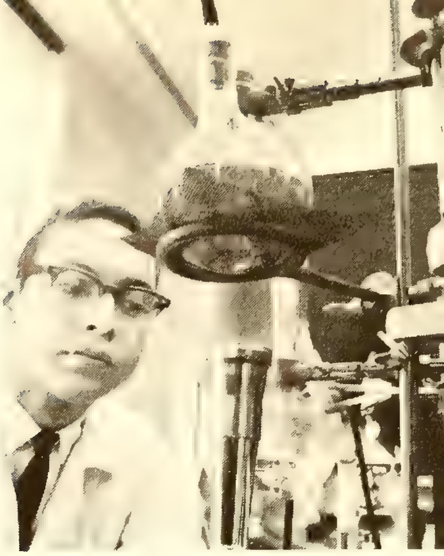
DEAN'S LIST

The Dean's List is a record of all students whose academic record merits special recognition from the college. In order to qualify for the Dean's List, a student must take a full program of five subjects (at least fifteen semester hours of work) and maintain a quality point average of at least 3.00 (a grade of B) with no grade lower than a C.

COMMENCEMENT MARSHALS

The juniors who have the highest scholastic averages are honored by being named Commencement Marshals. The marshal who has the best academic record is designated Chief Marshal.

DEGREES



Bachelor of Arts

Fields in which students may major for the Bachelor of Arts degree: Chemistry, Business Administration, English, French, History, Mathematics, Political Science, Spanish.

Freshman Year	Semester Hours
English 101[1], 102	6
History 101, 102	6
Mathematics[2]	6
Natural Science[3]	8
Foreign Language[4]	6
	32

Sophomore Year	
English 201; and 202 or 203 or 204	6
Natural Science[3]	8
Foreign Language[4]	6
Social Studies[5]	6
Electives[6]	6
	32

Junior Year	
In Major Department[7]	6-12
In Related Work[8]	6-12
Electives[6]	6-18
	30-32

SENIOR YEAR

In Major Department[7]	6-12
In Related Work[8]	6-12
Electives[6]	6-18
	30-32
Total number of semester hours required	126
Maximum number of semester hours in one department	36

Requirements for a major and related work:

For the Major: See individual departments, pgs. 65-100. A student must present 15 to 21 semester hours of related work approved to the Dean of the College by the head of the student's major department. This related work may be in one department, but may not be in more than two departments, other than the department of the student's major.[6]

Quality Requirements:

At least a 2.00 quality-point average on all courses attempted. At least a 2.50 grade-point average on all courses attempted in the major department.

Level of Courses:

At least 48 sem. hrs. presented for a degree must be in 300 and 400 courses.

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[1] Students making a sufficiently high placement score in English are exempted from English 101.

[2] The six semester hours of Mathematics required for a BA degree must include either Mathematics 102 or 141.

[3] In the total of 16 semester hours required in "Natural Science", a student must take at least one semester course in the biological sciences and at least one in the physical sciences. For his biological science a student may choose from botany, zoology, and psychology 201. Psychology 201 may count either as a biological science or as social study, but not as both. For his physical science a student may choose from chemistry, physics, geology and geography 101.

[4] A student must complete two "300" courses in one foreign language; except that a student who has satisfactorily passed two years of high school study in one language and chooses a different language in college may satisfy this requirement by completing two "200" courses in that second language.

[5] History, economics, political science, psychology, philosophy, religion, anthropology, and sociology.

[6] A student will probably wish to begin or to continue work in his prospective major field.

[7] Majors offered are set forth on pages 65-100.

[8] Required related work and recommended work for each major are set forth on pages 65-100.

Bachelor of Science

Fields in which students may major for the Bachelor of Science degree: Chemistry, Mathematics.

FRESHMAN YEAR	SEMESTER HOURS
English 101[1], 102	6
History 101, 102	6
Mathematics[2]	6
Natural Science[3]	8
Foreign Language[4]	6
	32

SOPHOMORE YEAR	
English 201 and either 202 or 203 or 204	6
Natural Science[3]	8
Social Studies or Humanities[5]	3
Electives[6]	15
	32

JUNIOR YEAR	
Social Studies or Humanities[5]	6
In Major Department[7]	12-15
In Related Work[8]	6-9
Electives[6]	6
	33

SENIOR YEAR	
Social Studies or Humanities[5]	6
In Major Department[7]	12-15
In Related Work[8]	9-12
Electives[6]	9
	30

Total number of semester hours required	127
Maximum number of semester hours in any one department	46

Requirements for a major and related work:

For the major: see individual departments pgs. 65-100. A student must present 15-25 semester hours or related work approved to the Dean of the College by the head of the student's major department. This related work may be in one department, but may not be in more than two departments, other than the department of the student's major.[6]

Quality requirements:

At least a 2.00 quality-point average on all courses attempted. At least a 2.50 quality-point average on all courses attempted in the major department.

Level of Courses:

At least 48 sem. hrs. presented for a degree must be in 300 and 400 courses.

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[1] Students making a sufficiently high placement score in English are exempted from English 101.

[2] The six semester hours of Mathematics required for a BA degree must include either Mathematics 102 or 141.

[3] In the total of 16 semester hours required in "Natural Science", a student must take at least one semester course in the biological sciences and at least one in the physical sciences. For his biological science a student may choose from botany, zoology, and psychology 201. Psychology 201 may count either as a biological science or as social study, but not as both. For his physical science a student may choose from chemistry, physics, geology and geography 101.

[4] A student must complete two "200" courses in one foreign language. If a student chooses for this requirement to begin a language other than that studied in high school, he must take two years of this language.

[5] History, economics, political science, psychology, philosophy, religion, anthropology, and sociology.

[6] A student will probably wish to begin or to continue work in his prospective major field.

[7] Majors offered are set forth on pages 65-100.

[8] Required related work and recommended work for each major are set forth on pages 65-100.

Bachelor of Science in Nursing

Charlotte College was authorized by the North Carolina State Board of Higher Education on the date of 17 April 1964 to offer a four-year program in Nursing leading to the Bachelor of Science degree beginning in the fall semester of 1964.

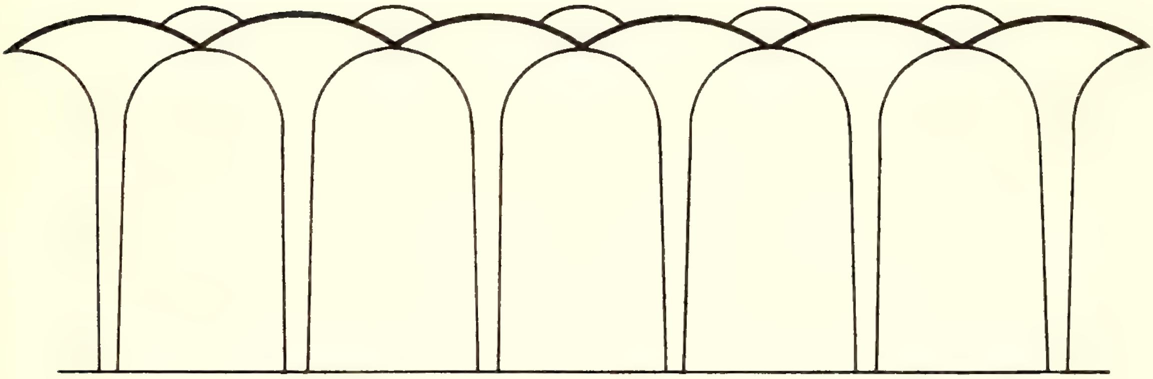
A full program is now in the process of being drawn up and will be presented in a special brochure available on request to the Registrar or the Director of Nursing. The program for the freshman year is as follows:

First Semester

English 101
Mathematics 101
Chemistry 101
Zoology 101
Nursing Education

Second Semester

English 102
Mathematics 102
Chemistry 102
Human Anatomy and Physiology
History 101



Preparation for Teaching

The Department of Education, within the framework of the liberal arts and science curricula, prepares elementary and secondary school teachers. Teacher education is conceived as a cooperative enterprise of the entire faculty. The program's requirements are in addition to the requirements which must be met in a major field of concentration and the general requirements for the degree of Bachelor of Arts or Bachelor of Science.

Qualified students are admitted to the program in the second term of the sophomore year. Candidates must have earned at least a 2.0 grade-point average on all courses attempted and have completed Phychology 201. Applications shoud be filed with the Chairman of the Department of Education during the preceding term. Those students accepted in the program will be assigned advisors whom they should consult for long-range planning of their programs and during the registration period.

Prior to taking Education 450 or 451 (Student Teaching) the candidates for a teaching certificate is required to have achieved at least a 2.5 grade-point average in all courses attempted within his academic major.

An applicant for a teaching certificate in North Carolina must file evidence that the National Teacher Examination has been taken before a certificate may be issued. Both common and optional examinations (optional to be in one's major certificate field, if available) must be taken by the applicant. Students should consult with the Chairman of the Department of Education for further details.

The Office of Teacher Placement provides professional teacher placement services for qualified graduates. All students in the Education sequence are urged to complete their credentials since it is common practice for school administrators to contact the Office of Teacher Placement for prospective candidates.

Candidates who plan to teach in elementary school will fulfill the following requirements:

(1) All required courses for graduation
(2) A major in one of the academic fields (a minimum of 27 semester hours)
(3) A sequence in Elementary Education: Education 201, 303, 304, 401 and 450; Psychology 202 and 301. Twenty-one semester hours of these courses may be counted as related work.

Candidates who plan to teach in secondary school will fulfill the following requirements:

(1) All required courses for graduation
(2) A major in the academic field in which they plan to teach
(3) A sequence in Secondary Education: Education 201, 304, 402 and 451; Phychology 202 and 302.
(4) Related work approved by the major department.

In meeting the general requirements for the Bachelor of Arts degree, students who plan to teach must include Geography 102, Political Science 201, and Psychology 201.

The elementary candidate must also take the following courses:

	SEMESTER HOURS
Language Arts	
English 303, Children's Literature	2
English 304, Reading and the Language Arts	3
Social Studies	
History 201, 202, American History	6
Geography 101, 102, Physical and Regional Geography	6
Political Science 201, Politics and Political Institutions in the U. S.	3

NOTE: (Some or all of these courses may be used in meeting general education requirements and requirements for a major.)

Mathematics

Mathematics 403, Arithmetic in the School	3

Arts

Art 201, Art Appreciation	2
Education 406, Applied Art	2
Music 407, Applied Music	2
Music 205, Music Appreciation	2

Health and Physical Education

Physical Education 408, Health Education Laboratory	2
Physical Education, 409, Physical Education Laboratory	2
TOTAL	35

Professional Education Sequence

Freshman Year	Semester Hours
No courses offered	

Sophomore Year

Elementary and Secondary

Introduction to Education 201	3
Educational Psychology 202	3

Junior Year

Elementary

Child Phychology 301	3
Elementary Education I: Organization and Curriculum 303	3

Secondary

Adolescent Psychology 302	3

Elementary and Secondary

Philosophy of Education 304	3

Senior Year

Elementary

Elementary Education II: Methods and Materials 401	3
Student Teaching: Elementary 450	6

Secondary	
Methods of Teaching in Secondary School 402	3
Student Teaching: Secondary 451	6
Total—Elementary	24
Total—Secondary	21

Bachelor of Science in Engineering

(Option of Electrical or Mechanical)

FRESHMAN YEAR	SEMESTER HOURS	
Eng. 101[1], 102, Eng. Composition	6	
Hist. 101, 102, Development of Civilization	6	
Math. 141, 142, Introductory Analysis I, II	8	
Chem. 101, Gen Chem.; 102, Qualitative Analysis	8	
Engin. 100, Introduction to Engineering	1	
Engin. 101, 102, Engineering Graphics	4	
Total from either option		33

SOPHOMORE YEAR		
Math. 241, 242, Introductory Analysis III, IV	8	
Physics 201, 202, Physics for Engineers	10	
Econ. 201, 202, Principles of Economics	6	
M.E. 251, Engin. Mech. I: Statics; 252, Engin. Mech. II: Dynamics	6	
Elect from Eng. 200 courses	3	
Electrical Engineers		
E.E. 201, 202, Elementary Fields & Circuits I, II	8	
Mechanical Engineers		
M.E. 253, 254, Metallurgy I, II	5	
Elect from Humanities or Social Studies	3	
Total from either option		41

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[1] Students making a sufficiently high placement score in English are exempted from English 101.

JUNIOR YEAR

Math. 341, Advanced Calculus I; 361, Linear Algebra	6
M.E. 351, Solid Mechanics	3
M.E. 353, 354, Thermodynamics I, II	6

Electrical Engineers

E.E. 301, 302, Intermediate Fields & Circuits I, II	8
E.E. 305, Electrical Machinery	4
E.E. 314, Electronics	4
Elect from Humanities or Social Studies	6

Mechanical Engineers

M.E. 355, Kinematics of Mechanisms	3	
M.E. 356, Dynamic Analysis of Machines	3	
M.E. 357, 358, Mechanical Laboratory I, II	2	
E.E. 359, 360, Principles of Engineering I, II	8	
Elect from Humanities or Social Studies	3	
Elect from Eng. 200 courses	3	
Total from either option		37

SENIOR YEAR

Electrical Engineers

E.E. 401, 402, Advanced Circuits I, II	8
E.E. 431, Electronic Engineering	4
E.E. 432, Communications Engineering	4
Elect from Physical Science or Mathematics	12
Elect from Humanities or Social Studies	6

Mechanical Engineers

M.E. 431, Power Plants	3
M.E. 432, Heat Transfer	3
M.E. 433, 434, Machine Design I, II	6
M.E. 352, Fluid Mechanics	3
M.E. 411, 412, Mechanical Laboratory III, IV	4

Elect from Physical Science or Mathematics	6	
Elect from Humanities or Social Studies	9	
Total from either option		34
Total Semester Hours		145

Terminal Curricula

The terminal curricula are intended primarily for students who expect to complete their college program in two years or less. These programs are designed for two distinct types of students: (1) those who plan to go directly into employment, and (2) those who are studying for advanced positions with their present employer. Several of the courses taken in each program are transferable to the university parallel curriculum without a loss of semester credit hours.

Business Administration and Accounting

FIRST YEAR	SEMESTER HOURS
English 101[1], 102	6
History 101, 102	6
Business Administration T101, T102	8
Business Administration T121	3
Business Administration T111	3
Electives	6
Total	32

SECOND YEAR	
English 201, and either 202 or 203 or 204	6
Economics 201, 202	6
Business Administration 380	3
Political Science 201	3
Electives	12
Total	30

Proficiency in typewriting is required in this program. Students not proficient in typewriting must elect Business Education T155, T156.

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[1] Students making a sufficiently high placement score in English are exempted from English 101.

General Business and Secretarial Science

First Year	Semester Hours
English 101[1], 102	6
History 101, 102	6
Business Administration T101, T102	8
Business Education T155, T156	6
Business Education T157, T158	6
Total	32

Second Year	
Business Education T111	3
Business Education T255, T256	6
Business Education T257, T258	6
Business Education T262	3
Business Education T263	3
Electives	12
Total	33

Associate in Arts Degree

Students completing 60 semester hours of work in a terminal or university parallel curriculum may be awarded the degree of Associate in Arts. At least 30 semester hours of work must be done at Charlotte College. An overall quality-point ratio of 2.00 is required.

University Parallel Curricula

Students who wish to graduate in curricula not offered at Charlotte College and who therefore wish to transfer to another college or university may work out a program of study at Charlotte College for the freshman and sophomore years that will lead directly into their desired curricula at certain other institutions. Such students should consult the Academic Dean and their advisors at Charlotte College for assistance and suggestions in planning their programs.

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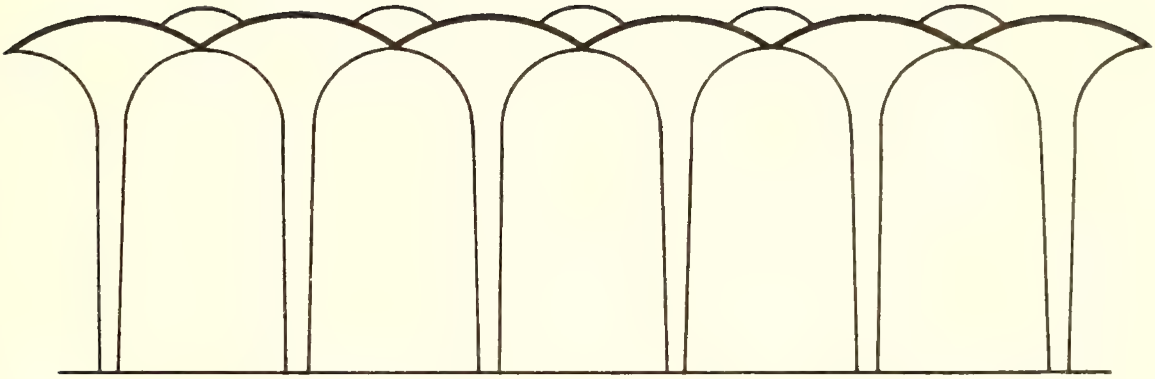
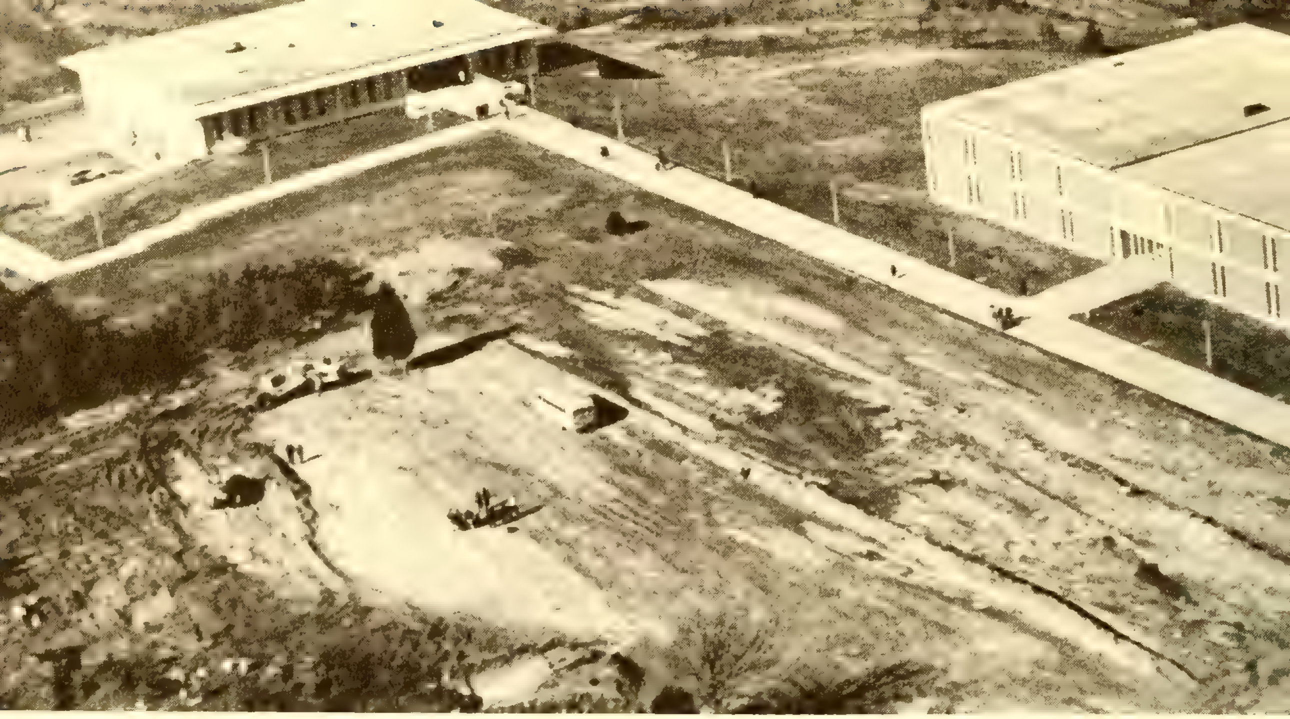
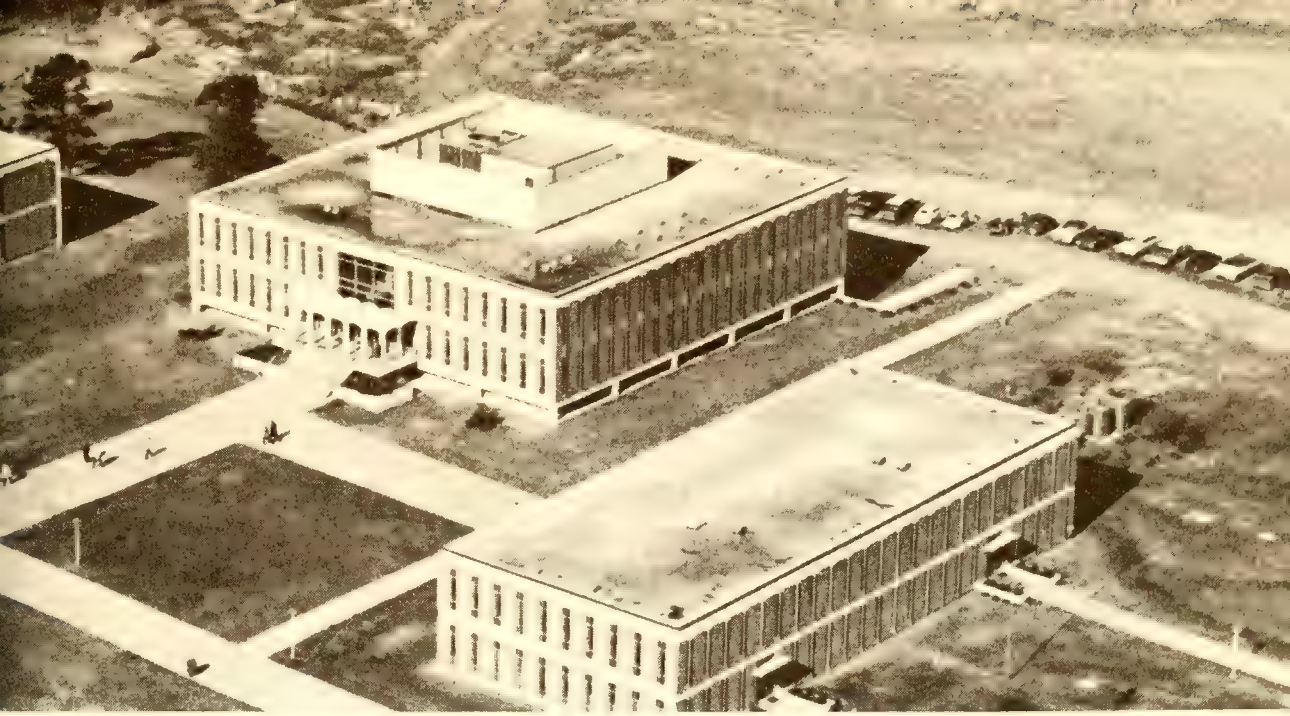
[1] Students making a sufficiently high placement score in English are exempted from English 101.

Such basic curricula which students may follow at Charlotte College are in:

Agricultural Science
Chemical Engineering
Civil Engineering
Geological Engineering
Journalism
Pre-Law
Pre-Medicine
Pre-Optometry
Pre-Pharmacy







COURSES OF STUDY

Entries in this chapter include the following information: the number of the course, preceded by the name of the subject (e.g., Botany 101, History 342); the specific title of the course; in parentheses, the semester hour value of the course; prerequisites, if any; brief description of contents; number of hours the class is in session per week and the division of these hours between lecture and laboratory (if no information of this sort is given, the class meets as many times per week as there are semester hours of credit for the course).

Courses numbered 100-199 are offered and primarily designed for freshmen; 200-299, sophomores; 300-399, juniors; 400-499, seniors.

Art

201. ART APPRECIATION. (2) A study to develop an appreciation of good art and some skills in handicrafts.

406. APPLIED ART. (2) *Prerequisite:* Education 303. Study of materials and techniques which the teacher can use in art activities in the school.

Biology

Professor HECHENBLEIKNER; *Assistant Professor* HAMPTON; *Instructor* KIRBY

Botany

101. INTRODUCTION TO PLANT BIOLOGY. (4) Plants in relationship to their habitat, distribution, and their significance

to animals and to human beings. The biochemical processes of cells and tissues in relation to function, together with their importance in plant inheritance. Three lecture hours and one laboratory period of three hours a week.

201. PLANT BIOLOGY. (4) *Prerequisite:* Botany 101. Selected life histories of major plant groups. Living field specimens. Plant anatomy, histology, and physiology. Three lecture hours and one laboratory period of three hours a week. Two or more one-day field trips to be arranged.

301. BRYOPHYTA. (4) *Prerequisite:* Botany 201. Field collecting, identification and study of the life histories of typical bryophytes. Three lecture hours and one laboratory period of three hours a week.

302. PLANT PHYSIOLOGY. (4) *Prerequisites:* Botany 201; Chemistry 202. The tissues and life processes of representative plants, including laboratory work in the use of radioactive tracers. Three lecture hours and one laboratory period of four hours a week.

303. GENETICS. (4) *Prerequisite:* Botany 201. Principles of heredity as applied to plants as evidenced by the breeding and improvement of crop and ornamental plants. Biochemical nature of mutation and variation. Three lecture hours and one laboratory period of three hours a week.

Zoology

101. INTRODUCTION TO ANIMAL BIOLOGY. (4) Survey of the phyla with emphasis on selected invertebrate and vertebrate types. Relationship of man to the animal kingdom and the basic fundamentals of human morphology, genetics, and physiology. Three lecture hours and one laboratory period of three hours a week.

201. ANIMAL BIOLOGY. (4) *Prerequisite:* Zoology 101. Emphasis on the vertebrates, both from the comparative standpoint and the various phases of classification. Anatomy, histology, life history, and embryology. Three lecture hours and one laboratory period of three hours a week. Two or more one-day field trips to be arranged.

301. INVERTEBRATE ZOOLOGY. (4) *Prerequisite:* Zoology 201. Life histories and comparisons of various invertebrate animal groups with emphasis on certain parasites of the human race. Three lecture hours and one laboratory period of three hours a week.

310. COMPARATIVE VERTEBRATE ANATOMY. (4) *Prerequisite:* Zoology 201. Selected animals for laboratory dissec-

tion from the Vertebrata together with lectures and discussion of other related forms. Three lecture hours and one laboratory period of three hours a week.

Chemistry

Professors Burson, *Chm.,* Norman; *Assistant Professor* Whitener; *Instructor* Cheek

A major in Chemistry leading to the B.A. degree consists of 32 semester hours in chemistry. Related work consists of 20 semester hours in two of the following departments: Biology, Mathematics, or Physics.

A major in Chemistry leading to the B.S. degree consists of 44 semester hours in chemistry. Related work consists of 25 semester hours of mathematics (all of which is to be beyond algebra and trigonometry) and physics.

101. GENERAL CHEMISTRY. (4) *Prerequisite or Corequisite:* Mathematics 101; *or* Mathematics 103. Fundamental principles, theories, and laws of chemistry; occurrence, preparation, properties, and uses of selected elements and their compounds. Three lecture hours and one laboratory period of three hours a week.

102. QUALITATIVE ANALYSIS. (4) *Prerequisite:* Chemistry 101. Continuation of Chemistry 101. Equilibrium, oxidation and reduction; metallurgy; introduction to organic, food, nuclear, and thermo chemistry; and semi-microanalytical laboratory techniques in the identification of common cations and anions. Three lecture hours and one laboratory period of three hours a week.

201. ORGANIC CHEMISTRY. (6) *Prerequisite:* Chemistry 102. Basic theories, principles, and techniques of organic chemistry and their applications to reactions of aliphatic and aromatic compounds and natural products. Laboratory includes qualitative organic analysis. Three lecture hours and two laboratory periods of three hours each per week.

202. ORGANIC CHEMISTRY. (6) *Prerequisite:* Chemistry 201. Continuation of Chemistry 201. Three lecture hours and two laboratory periods of three hours each per week.

203. ORGANIC CHEMISTRY. (4) *Prerequisite:* Chemistry 102. Lecture same as Chemistry 201. Three lecture hours and one laboratory period of three hours a week.

204. ORGANIC CHEMISTRY. (4) *Prerequisite:* Chemistry 203. Lecture same as Chemistry 202. Continuation of Chemistry 203. Three lecture hours and one laboratory period of three hours a week.

301. PHYSICAL CHEMISTRY. (4) *Prerequisites:* Chemistry 202; Mathematics 141; Physics 202 or Physics 212. Theories of gases, liquids, solids, solutions, and colloidal systems; chemical thermodynamics, the phase rule, kinetics, and electrochemistry; atomic and molecular structure. Three lecture hours and one laboratory period of three hours a week.

302. PHYSICAL CHEMISTRY. (4) *Prerequisite:* Chemistry 301. Continuation of Chemistry 301. Three lecture hours and one laboratory period of three hours a week.

303. QUANTITATIVE ANALYSIS. (4) *Prerequisites:* Chemistry 102; *and* satisfactory work in college mathematics and physics. Introductory course in quantitative analytical chemistry, including both volumetric and gravimetric procedures. Two lecture hours and two laboratory periods of three hours each a week.

304. ADVANCED QUANTITATIVE ANALYSIS. (4) *Prerequisites:* Chemistry 301; Chemistry 303. Continuation of Chemistry 303, involving more difficult methods including instrumental methods such as spectrophotometric, electro-analytical, and chromatographic techniques. Two lecture hours and two laboratory periods of three hours each a week.

401. ADVANCED INORGANIC CHEMISTRY. (4) *Prerequisite:* Chemistry 302, 304. Descriptive and theoretical inorganic chemistry, including the application of physical chemical principles to the study of inorganic systems. Laboratory work involving inorganic preparations and analytical instrumental techniques. Three lecture hours and one laboratory period of three hours a week.

402. ADVANCED ORGANIC CHEMISTRY. (4) *Prerequisites:* Chemistry 202 or 204; 303. Recent developments in organic chemistry. Laboratory techniques of organic chemistry with emphasis on qualitative organic analysis, including instrumental methods. Two lecture hours and two laboratory periods of three hours a week.

403. INDEPENDENT STUDY AND RESEARCH. (1 to 4) *Prerequisites:* Chemistry 302, 304, 202. Independent study and research. A senior project in any of these fields of chemistry; organic, physical, analytical, inorganic, or biochemistry; introduction to research. Hours in consultation, chemical literature and laboratory to be determined.

Economics and Business Administration

Professor WUBBEN, *Chm.; Assistant Professor* BLACHMAN; *Instructor* WILLIAMSON

A major in Business Administration leading to the B.A. degree consists of 30 semester hours in the department of Economics and Business Administration. All majors are required to take Principles of Economics (6), Principles of Accounting (6), Industrial Relations (3), Marketing (3), Production Management (3), Price Theory and Industrial Organization (3), Financial Management (3), and Business Law (3). Majors in this department must take Mathematics 221 and 222 (6), Probability and Statistics.

Related work consists of 15 semester hours.

Economics

201. PRINCIPLES OF ECONOMICS. (3) The first semester of a one-year introductory course in Economics. Topics considered include the scope and methodology of economics as a social science, the measurement of national income, the theory of national income determination, money and banking, monetary and fiscal policy.

202. PRINCIPLES OF ECONOMICS. (3) *Prerequisite:* Economics 201. The second semester of a one-year introductory course in economics. Topics considered include the operation of the pricing mechanism of a market economy, the industrial organization of our contemporary capitalistic economy, problems of economics concentration and of agriculture, the theory of income distribution, international economic relationships, and comparative economic systems.

305. INDUSTRIAL RELATIONS. (3) *Prerequisite:* Economics 202. Systematic analysis of the sociological, economic, and political forces affecting and affected by the work environment. Special emphasis on market structure, the small group, the legal environment, and union structure.

315. MONEY AND BANKING. (3) *Prerequisites:* Economics 202 and Business Administration 201. The characteristics and functions of money in the modern economy. The operation of our banking system; monetary theory and policy.

322. PRICE THEORY AND INDUSTRIAL ORGANIZATION. (3) *Prerequisite:* Economics 202. A study of the manner in which prices are determined in various types of markets—competitive, monopolistic, oligopolistic, and monopolistically competitive—and of the characteristics of each. Consideration is given to the economics of the firm, and to the use of economic theory in making business decisions.

Business Administration

201. Business Administration. PRINCIPLES OF ACCOUNTING (3) *Prerequisite or Corequisite:* Economics 201. A study of fundamental accounting principles, with emphasis on managerial

uses of accounting data, and analysis of financial statements. Three lecture hours and one laboratory period of two hours a week. The laboratory period is optional unless scheduled for an examination.

202. Business Administration. PRINCIPLES OF ACCOUNTING (3) *Prerequisite:* Business Administration 201. A study of basic accounting theory; corporate financing and reporting; financial planning; and an introduction to cost accounting. Three lecture hours and one laboratory period of two hours a week. The laboratory period is optional unless scheduled for an examination.

311. MARKETING. (3) *Prerequisite:* Economics 202. *Prerequisite or Corequisite:* Business Administration 201. A consideration of the problems involved in the physical distribution of goods from the producer to the final consumer. Attention is given to the various marketing channels and institutions. In general, the course will be taught from the standpoint of the producer of the product to be marketed.

316. FINANCIAL MANAGEMENT. (3) *Prerequisites:* Economics 202, Business Administration 201. Principles and problems of business financing. Particular emphasis on financial planning and control.

380. BUSINESS LAW. (3) *Prerequisite or corequisite:* Economics 202; *Prerequisite:* Business Administration 201 or Business Administration T102. A study of the legal environment in which a business operates, topics covered include contracts, sales, negotiable instruments, agency, partnerships, and corporations.

400. PRODUCTION MANAGEMENT. (3) *Prerequisites:* Economics 202 and Business Administration 202. Analysis of the management function of production control, with emphasis at the *micro level.* Ample use of the case study approach will develop an understanding of production planning, control, and decisions.

Education

NOTE: For requirements for Teacher Certification in North Carolina, see pages 54-57.

201. INTRODUCTION TO EDUCATION. (3) An introductory course to acquaint students with the teaching profession. Considered are the role of the teacher, the clientele of the school, and the community. Emphasis placed on the historical and sociological orientation of the school in society.

303. ELEMENTARY EDUCATION I: ORGANIZATION AND CURRICULUM. (3) *Prerequisite:* Psychology 301. The course deals with the organization of the curriculum, guidance and counseling, pupil promotional patterns, articulation, co-curricular activities, and classroom management at the elementary level.

304. PHILOSOPHY OF EDUCATION. (3) *Prerequisites:* Education 201, Psychology 202. A study of the educational philosophies of the contemporary period and the basic assumptions upon which statements about modern education rest. Extensive readings in text and source materials.

401. ELEMENTARY EDUCATION II: METHODS AND MATERIALS. (3) *Prerequisite:* Education 303. Major consideration is given to the methods and materials used in teaching at the various grade levels in the elementary school. Emphasis placed on the preparation of lesson plans and units.

402. METHODS OF TEACHING IN SECONDARY SCHOOL. (3) *Prerequisite:* Education 304. Aims, methods, and materials of teaching a subject at the secondary level. Also considered are the following: organization of the curriculum, pupil promotional patterns, and classroom management.

402-a English
402-b Foreign Languages
402-c Mathematics
402-d Sciences
402-e Social Studies

404. TEACHING SOCIAL STUDIES IN ELEMENTARY SCHOOL. (3) *Prerequisite:* Education 303. The course is designed to promote the understanding of the contributions of social studies learning experiences to the growth and development of the elementary school child. Instructional materials and techniques appropriate to the teaching of social studies in the elementary school are considered.

450. STUDENT TEACHING: ELEMENTARY. (6) *Prerequisite:* Education sequence. Observation and teaching in elementary school under the supervision of an experienced teacher and college supervisor.

451. STUDENT TEACHING: SECONDARY. (6) *Prerequisite:* Education sequence. Observation and teaching in secondary school under the supervision of an experienced teacher and college supervisor.

Engineering

Associate Professors CALCOTE, STOUGHTON; *Assistant Professor* DARHOLT

For required curriculum leading to the B.S. Degree in Engineering, please see pages 57-59.

100. INTRODUCTION TO ENGINEERING. (1) Survey of the professional fields in engineering, the work of the engineer, requirements in training and character, professional ethics,

and the divisions of industrial practice. Solving of simple problems from various fields of engineering with slide rule applications. One lecture hour a week.

101. ENGINEERING GRAPHICS. (2) *Prerequisite:* One high school course in Solid Geometry. Major areas in this course include: instrument practice, geometric construction, orthographic projection, sections, auxiliary views, pictorial drawing, details and assemblies, charts, graphs, freehand sketching, and dimensioning.

102. ENGINEERING GRAPHICS. (2) *Prerequisite:* Engineering Graphics 101. True length, true slope and line as a point, edge view and true size of a plane, shortest distance between lines, a line piercing a plane, intersction of planes, dihedral angle, shortest distances to a plane, angle between a line and a plane, revolution, development of surfaces, intersection of solids, and other miscellaneous problems.

Electrical Engineering

201. ELEMENTARY FIELDS AND CIRCUITS I. (4) *Prerequisite or Corequisite:* Mathematics 142. Introduction to transient and steady state analysis. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

202. ELEMENTARY FIELDS AND CIRCUITS II. (4) *Prerequisites:* Electrical Engineering 201; Physics 201. Introduction to magnetic circuits, magnetic and electric fields, and energy conversion. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

301. INTERMEDIATE FIELDS AND CIRCUITS I. (4) *Prerequisites:* Electrical Engineering 202; Mathematics 241; Physics 202. Lumped-constant A. C. circuits. Single and three phase. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

302. INTERMEDIATE FIELDS AND CIRCUITS II. (4) *Prerequisites:* Electrical Engineering 301; Mathematics 242. Theory of transmission lines. Filters. Impedance matching. 2 lecture hours, 2 problem solving hours, and 1 laboratory period of 3 hours a week.

305. ELECTRICAL MACHINERY. (4) *Prerequisite:* Electrical Engineering 202. Principles, performance, and characteristics of D. C. and A. C. machinery. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

314. ELECTRONICS. (4) *Prerequisite:* Electrical Engineering 301. Active vacuum, gas, and solid state devices in electronics.

Linear and nonlinear representation. Two lecture hours, two problem solving hours, and one laboratory period of three hours a week.

359. PRINCIPLES OF ELECTRICAL ENGINEERING I. (4) *Prerequisite:* Physics 202. Basic electrical concepts; the generation and utilization of electric power; the fundamentals of electronics and control circuits. Three lecture hours and one laboratory period of three hours a week.

360. PRINCIPLES OF ELECTRICAL ENGINEERING II. (4) *Prerequisite:* Mechanical Engineering 359. Continuation of Mechanical Engineering 359. Three lecture hours and one laboratory period of three hours a week.

401. ADVANCED CIRCUITS I. (4) Required. A study of classical electric and magnetic field theory and its application to electrical engineering. Consideration of electrostatics, magnetostatics, radiation, and guides waves. Three hours of lecture and one 3 hour laboratory per week.

402. ADVANCED CIRCUITS II. (4) Required. Basic principles of electromagnetic theory in vector analysis formulation, including static and dynamic fields in transmission lines, antennas, and wave-guides. Three hours of lecture and one 3 hour laboratory per week.

431. ELECTRONIC ENGINEERING. (4) *Prerequisites:* Mathematics 512, Electrical Engineering 302, Electrical Engineering 314. Amplifiers, modulators, detectors, wave-shaping circuits. Three lecture hours and one laboratory period of three hours a week.

432. COMMUNICATION ENGINEERING. (4) Required. Application of electronic circuits to wire communication systems: wave propagation, transmitters, receivers, TV, radar, navigational systems, and noise phenomena. Three hours of lecture and one 3 hour laboratory per week.

440. FUNDAMENTALS OF DIGITAL SYSTEMS. (3) Basic theory of digital computation and control. Introduction to number systems and electronic instrumentation analogies. Three hours of lecture per week.

Mechanical Engineering

251. ENGINEERING MECHANICS I: STATICS. (3) *Corequisites:* Mathematics 241; Physics 201. Analysis of force systems by means of vector algebra. Two- and three-dimensional systems, including force fields, are treated. The principle of virtual work is introduced.

252. ENGINEERING MECHANICS II: DYNAMICS. (3) *Prerequisite:* Engineering Mechanics 251. *Corequisite:* Mathematics 242. Introduces the elements of vector calculus as applied to mechanics; treats kinematics, moving reference frames, and Coriolis accelerations; treats the kinetics of central force motion and plane motion; introduces energy and momentum principles for particles and rigid bodies; introduces tensor analysis and presents the motion of the inertia tensor and Euler's equations of motion.

253. MECHANICAL METALLURGY I. (2) *Prerequisite:* Engineering Mechanics 251. The basic concepts of mechanical metallurgy, including the mechanical fundamentals of stress and strain relationships for elastic behavior and elements of the theory of plasticity and the metallurgical fundamentals of crystalline engineering materials.

254. MECHANICAL METALLURGY II. (3) *Prerequisite:* Mechanical Engineering 253. A continuation of Mechanical Engineering 253, including the applications to materials testing and the plastic forming of metals. Two lecture hours and one laboratory period of three hours a week.

351. SOLID MECHANICS. (3) *Prerequisite:* Engineering Mechanics 251. The mechanics of elastic deformable bodies, based on the fundamental concepts of equilibrium, geometry of strain, and properties of materials. Relations between stresses, strains, and displacements. Development and application of the basic equations of strength of materials and elasticity.

352. FLUID MECHANICS. (3) *Prerequisite:* Engineering Mechanics 252. The development and application of the basic equations of fluid mechanics. Treats fluid statics, momentum, equations, Bernoulli's equation, dimensional analysis and similitude, inviscid, incompressible fluid flow, and viscous, incompressible fluid flow.

353. THERMODYNAMICS I. (3) *Prerequisite:* Physics 201. *Corequisite:* Mathematics 242. Essential concepts of thermodynamics and their application to the behavior of systems. Consideration of changes resulting from changes in state, treatment of energies and enthalpies of reaction, transformation and solution, energy balances, and applications.

354. THERMODYNAMICS II. (3) *Prerequisite:* Mechanical Engineering 353. Continuation of Mechanical Engineering 353.

355. KINEMATICS OF MECHANISMS. (3) *Prerequisite:* Engineering Mechanics 252. Comprehensive treatment of displacement, velocity, and acceleration in plane and space motion, using classical and modern higher analytical methods. Application to the field of Mechanical Engineering.

356. DYNAMIC ANALYSIS OF MACHINES. (3) *Prerequisite:* Mechanical Engineering 355. The application of rational dynamics to mechanical systems. Treats static-force analysis, dynamic-force analyses of plane motion and space mechanisms, vibration analysis, balancing, and the dynamics of reciprocating engines and cams.

357. MECHANICAL LABORATORY I. (1) *Corequisites:* Mechanical Engineering 353, 355. Theory and principles of instrumentation and measurement of thermodynamic properties, flow properties, and strain; analyses of simple systems. No lecture hours. One laboratory period of three hours a week.

358. MECHANICAL LABORATORY II. (1) *Prerequisite:* Mechanical Engineering 357. *Corequisite:* Mechanical Engineering 354, 356. A continuation of Mechanical Engineering 357 with emphasis on laboratory experiments and projects involving the use of kinematic quantities, thermophysical applications, and energy measurements. No lecture hours. One laboratory period of three hours a week.

411. MECHANICAL LABORATORY III. (2) *Prerequisite:* Mechanical Engineering 358. The selection of appropriate instrumentation and the experimental analysis of predetermined small scale engineering systems. No lecture hours. One laboratory period of three hours a week.

412. MECHANICAL LABORATORY IV. (2) *Prerequisite:* Mechanical Engineering 411. Continuation of Mechanical Engineering 411. The application of principles of experience gained in previous mechanical laboratories to individual or group investigation of original problems of the students' interests. No lecture hours. One laboratory period of three hours a week.

431. POWER PLANTS. (3) *Prerequisite:* Mechanical Engineering 354. Economic operation and maintenance of power plant equipment and power stations; load analysis; cost of power; methods of increasing efficiency and economy; selection of apparatus.

432. HEAT TRANSFER. (3) *Prerequisite:* Mechanical Engineering 354. A study of the fundamental laws of heat transfer by conduction, convection, and radiation; steady and unsteady states of heat transfer.

433. MACHINE DESIGN I. (3) *Prerequisites:* Engineering Mechanics 351; Mechanical Engineering 356. Technical application of the basic principles of the mechanical sciences to the analysis of machines and mechanical systems; methods of design of typical machine elements; strength and deflection of requirements; cost analysis.

434. MACHINE DESIGN II. (3) *Prerequisite:* Mechanical Engineering 433. Synthesis of machines and mechanical systems. Analysis, creative design, and selection of machines and machine elements, including consideration of function, production, and economic factors.

Civil Engineering

Instructor SERINKEN

201. SURVEYING I. (3) *Prerequisite:* Mathematics 141. Elements of plan surveying including taping, transit, level, stadia, plane table, topographic surveying and mapping, care and adjustment of instruments; construction surveys; earthwork computations; route surveys and design; simple, compound, parabolic, and spiral curves; chainage equations. One lecture hour, two problem solving hours, and one laboratory period of three hours a week.

202. SURVEYING II. (3) *Prerequisite:* Civil Engineering 201. Continuation of Civil Engineering 201. One lecture hour, two problem solving hours, and one laboratory period of three hours a week.

English

Professors WALLACE, *Chairman,* DENNY *(Chairman of Freshman English); Associate Professors* FORE, MOOSE; *Assistant Professors* ELLIS, STOVAL; *Instructors* FUHRMAN, JODY, MEEKINS, STEPHENS

A major in English leading to the B.A. degree consists of 32 semester hours of English, exclusive of English 101. Required courses are English 102, 201, 202 (9); Shakespeare (3); two English and one American period course (9); one upper-division course in language or composition (3); the Senior Colloquium (2); and 6 additional hours within the department. Majors in this department must take 3 hours in the history of England. Related work consists of 15 semester hours.

101. ENGLISH COMPOSITION. (3) Intensive practice in theme writing. Review of the fundamentals in English grammar and usage, the reading and writing of exposition.

102. ENGLISH COMPOSITION. (3) *Prerequisite:* English 101. Critical writing, collateral reading, and introduction to literary study.

201. ENGLISH LITERATURE. (3) *Prerequisite:* English 102. Intensive study of the masterpieces of English literature in chronological sequence before 1800.

202. ENGLISH LITERATURE. (3) *Prerequisite:* English 201. Continuation of chronological sequence study of English masterpieces.

203. MASTERPIECES OF MODERN FICTION. (3) *Prerequisite:* 201. Readings in selected novels and short stories written since 1850.

204. MAJOR AMERICAN WRITERS. (3) *Prerequisite:* English 201. Extensive reading in the work of Poe, Hawthorne. Melville, and Twain.

NOTE: The prerequisite for all 300 level courses: "Six semester hours of English on the 200 level unless otherwise stated."

301. MASTERPIECES OF EUROPEAN LITERATURE. (3) Reading of complete works in translation: Epic, drama, history, oratory, and lyric poetry.

302. MASTERPIECES OF EUROPEAN LITERATURE. (3) Readings of Dante, Erasmus, Montaigne, Moliere, Dostoevosky, Tolstoy, and others.

303. CHILDREN'S LITERATURE. (2) *Prerequisite:* English 202. A critical study of representative reading materials appropriate for school-age children. Various approaches to literature examined with reference to interests, needs, and abilities of children at the elementary level. Does not count towards an English major.

304. READING AND THE LANGUAGE ARTS. (3) *Prerequisite:* English 202. Emphasis given to oral and written communication. Attention is also given to the teaching of reading with an appraisal of current programs and methods. Does not count toward an English major.

305. ADVANCED COMPOSITION. (3) *Prerequisite:* Twelve hours of English. The writing of essays, criticisms, various forms of exposition, and short narratives.

311. CHAUCER. (3) *The Canterbury Tales;* parts of *Troilus and Criseyde.*

312. SHAKESPEARE. (3) Twelve of his major plays from the comedies, tragedies, and histories.

313. MILTON. (3) The major poems and selections from the minor works.

321. THE SEVENTEENTH CENTURY. (3) The major writers from the beginning of the century through Milton and Bunyan. Emphasis upon the metaphysical poets.

323. ENGLISH LITERATURE, 1660-1785. (3) *Prerequisite:* Twelve hours of English. Poetry and prose from Dryden through Johnson; collateral readings in drama and the novel.

325. THE ROMANTIC ERA (1798-1832), (3) The development of the Romantic movement with emphasis on the works of Wordsworth and Coleridge; the major poems of the later Romantic poets.

326. THE VICTORIAN ERA (1832-1900). (3) Works of Tennyson, Robert and Elizabeth Browning, Arnold, Swinburne, Carlyle, Ruskin, and Newman.

331. THE ENGLISH LANGUAGE. (3) Origins and development of the English language and its present usage.

332. ENGLISH GRAMMAR. (3) English grammar with particular emphasis on modern usage and with the relations of grammar and composition. Designed to satisfy the North Carolina requirements for prospective teachers of English who have taken advanced composition.

341. AMERICAN LITERATURE, 1820-1890. (3) Major writers and literary movements from Irving through Whitman.

342. AMERICAN LITERATURE SINCE 1890. (3) The chief writers and movements from Howells to the present.

343. THE AMERICAN NOVEL OF THE NINETEENTH CENTURY. (3) Major novelists and traditions before Henry James.

401. LITERARY CRITICISM. (3) *Prerequisite:* Fifteen hours of English. The major schools and individual critics; readings in the history of criticism and composition of critical papers.

421. THE ENGLISH NOVEL BEFORE SCOTT. (3) *Prerequisite:* Twelve hours of English. Major writers and traditions, Defoe through Jane Austen.

423. THE MODERN NOVEL. (3) *Prerequisite:* Twelve hours of English. Eight representative modern novels showing the philosophies and techniques affecting English and American fiction, from Hardy to the present.

441. COLONIAL AND EARLY AMERICAN LITERATURE. (3) American Literature from Colonial times through Washington Irving.

492. SENIOR COLLOQUIUM. (2) *Prerequisite:* Senior standing and permission of the Departmental Chairman. Lectures and student reports chronologically arranged.

Foreign Languages

Professor MACY, *Chairman; Associate Professors:* HOYLE, SLECHTA; *Assistant Professors:* GABRIEL, SAMAN; *Instructors:* FAHERTY, VILAS.

Students will be placed in the proper foreign language course according to their competence and their placement test scores.

Students will be given credit for any language course taken at Charlotte College for which they have not received credit upon entrance.

Language laboratory work is required, without additional college credit, for all students in 100 and 200 courses, as well as in the 301 and 302 courses, and may be required in other courses at the discretion of the instructor.

French

A major in French leading to the BA degree consists of French 201, 202, 301, 302, 303, 304, and 12 hours of French courses on the 400 level, which must include French 492. In addition, 18 hours of related work will be required.

101. ELEMENTARY FRENCH. (3) Fundamentals of French grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Three lecture hours and one laboratory period of one hour a week.

102. ELEMENTARY FRENCH. (3) *Prerequisite:* French 101. Continuation of French 101. Graded readings. Three lecture hours and one laboratory period of one hour a week.

201. INTERMEDIATE FRENCH. (3) *Prerequisite:* French 102. Review grammar, reading, and conversation. A review of the fundamentals of grammar, with emphasis on composition and improving student's speaking ability. Three lecture hours and one laboratory period of one hour a week.

202. INTERMEDIATE FRENCH. (3) *Prerequisite:* French 201. Readings, composition, and conversation on French civilization. Collateral readings. Three lecture hours and one laboratory period of one hour a week.

301. ADVANCED FRENCH GRAMMAR, COMPOSITION, AND CONVERSATION I. (3) *Prerequisite:* French 202. For prospective teachers of French and students who want intensive oral and written work in the language. Book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

302. ADVANCED FRENCH GRAMMAR, COMPOSITION, AND CONVERSATION II. (3) *Prerequisite:* French 301. Continuation of French 301. Informal conversation on diversified prepared topics, newspaper and magazine articles. Students will be given maximum opportunity for self-expression. Book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

303. SURVEY OF FRENCH LITERATURE TO 1800. (3) *Prerequisite:* French 202. Selected readings in prose and poetry from the Middle Ages to 1800. Emphasis on each literary movement. Book reports on collateral readings.

304. SURVEY OF FRENCH LITERATURE SINCE 1800. (3) *Prerequisite:* French 202. Continuation of French 303. Book reports on collateral readings.

321. SELECTED READINGS IN FRENCH LITERATURE I. (3) *Prerequisite:* French 202. Book reports on collateral readings.

322. SELECTED READINGS IN FRENCH LITERATURE II. (3) *Prerequisite:* French 202. Continuation of French 321. Book reports on collateral readings.

401. FRENCH LITERATURE OF THE TWENTIETH CENTURY. (3) *Prerequisite:* Two 300-level courses. Collateral readings.

403. FRENCH LITERATURE OF THE NINETEENTH CENTURY. (3) *Prerequisite:* Two 300-level courses. Collateral readings.

405. THE AGE OF ENLIGHTENMENT. (3) *Prerequisite:* Two 300-level courses. Collateral readings.

408. THE CLASSICAL PERIOD. (3) *Prerequisite:* Two 300-level courses. Collateral readings.

414. FRENCH LITERATURE OF THE SEVENTEENTH AND EIGHTEENTH CENTURIES. (3) *Prerequisite:* Two 300-level courses. Collateral readings.

416. FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE. (3) *Prerequisite:* Two 300-level courses. Collateral readings.

492. SENIOR COLLOQUIUM. (3) *Prerequisite:* Senior standing and permission of the departmental chairman. Comprehensive review of the major field. Collateral readings and term papers. Required of all French majors.

German

101. ELEMENTARY GERMAN. (3) Fundamentals of grammar, with particular stress on correct pronunciation and self-expression through practice in the language laboratory. Three lecture hours and one laboratory period of one hour a week.

102. ELEMENTARY GERMAN. (3) *Prerequisite:* German 101. Continuation of German 101 and graded readings. Three lecture hours and one laboratory period of one hour a week.

201. INTERMEDIATE GERMAN. (3) *Prerequisite:* German 102. Review grammar, reading, and conversation. A review of the fundamentals of grammar, with emphasis on composition and improving student's speaking ability. Three lecture hours and one laboratory period of one hour a week.

202. INTERMEDIATE GERMAN. (3) *Prerequisite:* German 201. Readings, composition, and conversation on German civilization. Collateral readings. Three lecture hours and one laboratory period of one hour a week.

221. GRADED SCIENTIFIC GERMAN. (3) *Prerequisite:* German 202. Book reports on graded collateral readings. Three lecture hours and one laboratory period of one hour a week.

222. GRADED SCIENTIFIC GERMAN. (3) *Prerequisite:* German 221. Continuation of German 221. Three lecture hours and one laboratory period of one hour a week.

301. ADVANCED GERMAN GRAMMAR, COMPOSITION, AND CONVERSATION I. (3) *Prerequisite:* German 202. For prospective teachers of German, and students who want intensive oral and written work in the language. Book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

302. ADVANCED GERMAN GRAMMAR, COMPOSITION, AND CONVERSATION II. (3) *Prerequisite:* German 301. Continuation of German 301. Book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

303. SURVEY OF GERMAN LITERATURE. (3) *Prerequisite:* German 202. General introduction to German literature from the Middle Ages to the classical period. Book reports on collateral readings.

304. SURVEY OF GERMAN LITERATURE. (3) *Prerequisite:* German 202. German literature since classicism. Book reports on collateral readings.

311. SELECTED READINGS IN GERMAN LITERATURE I. (3) *Prerequisite:* German 202. Book reports on collateral readings.

312. SELECTED READINGS IN GERMAN LITERATURE II. (3) *Prerequisite:* German 202. Book reports on collateral readings.

321. ADVANCED SCIENTIFIC GERMAN. (3) *Prerequisite:* German 202. Readings and translations of German publications in the field of science with emphasis on the student's major field of concentration.

322. ADVANCED SCIENTIFIC GERMAN. (3) *Prerequisite:* German 202. Readings and translations of German publications in the field of concentration.

401. GERMAN CLASSICISM. (3) *Prerequisite:* two 300-level courses. Storm and stress. Early classicism. Book reports on collateral readings.

402. GERMAN ROMANTICISM. (3) *Prerequisite:* two 300-level courses. Late classicism and romanticism. Book reports on collateral readings.

407. GERMAN POETRY FROM HOELDERLIN TO THE PRESENT. (3) *Prerequisite:* two 300-level courses. An analysis of the chief lyric poets, literary movements, and types of German poetry.

414. TWENTIETH CENTURY GERMANY AS REFLECTED IN LITERATURE. (3) *Prerequisite:* two 300-level courses. Political and social events from World War One to the present day, as reflected in German literature. Book reports on collateral readings.

Russian

101. ELEMENTARY RUSSIAN. (3) Fundamentals of Russian grammar with particular stress on correct pronunciation and self-expression, through practice in the language laboratory. Three lecture hours and one laboratory period of one hour a week.

102. ELEMENTARY RUSSIAN. (3) *Prerequisite:* Russian 101. Continuation of Russian 101. Graded readings. Three lecture hours and one laboratory period of one hour a week.

Spanish

A major in Spanish leading to the BA degree consists of Spanish 201, 202, 301, 302, 303, 304, and 12 hours of Spanish courses on the 400 level, which must include Spanish 492. In addition, 18 hours of related work will be required.

101. ELEMENTARY SPANISH. (3) Fundamentals of Spanish grammar, with particular stress on correct pronunciation and self-expression, through practice in the language laboratory. Three lecture hours and one laboratory period of one hour a week.

102. ELEMENTARY SPANISH. (3) *Prerequisite:* Spanish 101. Continuation of Spanish 101, and graded readings. Three lecture hours and one laboratory period of one hour a week.

201. INTERMEDIATE SPANISH. (3) *Prerequisite:* Spanish 102. Review grammar, reading, and conversation. A review of the fundamentals of grammar, with emphasis on composition and improving student's speaking ability. Three lecture hours and one laboratory period of one hour a week.

202. INTERMEDIATE SPANISH. (3) *Prerequisite:* Spanish 201. Readings, composition, and conversation on Spanish civilization. Collateral readings. Three lecture hours and one laboratory period of one hour a week.

301. ADVANCED GRAMMAR, COMPOSITION, AND CONVERSATION I. (3) *Prerequisite:* Spanish 202. For prospective teachers of Spanish, and students who want intensive oral and written work in the language. Book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

302. ADVANCED GRAMMAR, COMPOSITION, AND CONVERSATION II. (3) *Prerequisite:* Spanish 301. Continuation of Spanish 301. Book reports on collateral readings. Three lecture hours and one laboratory period of one hour a week.

303. SURVEY OF SPANISH AND SPANISH-AMERICAN LITERATURE TO 1700. (3) *Prerequisite:* Spanish 202. Book reports on collateral reading. Required of Spanish majors.

304. SURVEY OF SPANISH AND SPANISH-AMERICAN LITERATURE SINCE 1700. (3) *Prerequisite:* Spanish 202. Book reports on collateral readings. Required of Spanish majors.

321. SELECTED READINGS IN SPANISH LITERATURE I. (3) *Prerequisite:* Spanish 202. Book reports on collateral readings.

322. SELECTED READINGS IN SPANISH LITERATURE II. (3) *Prerequisite:* Spanish 202. Book reports on collateral readings.

401. THE GENERATION OF 1898 AND THE TWENTIETH CENTURY I. (3) *Prerequisite:* two 300-level courses. Book reports on collateral readings.

402. THE GENERATION OF 1898 AND THE TWENTIETH CENTURY II. (3) *Prerequisite:* two 300-level courses. Book reports on collateral readings.

403. EIGHTEENTH AND NINETEENTH CENTURY SPANISH LITERATURE I. (3) *Prerequisite:* two 300-level courses. Book reports on collateral readings.

404. EIGHTEENTH AND NINETEENTH CENTURY SPANISH LITERATURE II. (3) *Prerequisite:* two 300-level courses. Book reports on collateral readings.

405. THE GOLDEN AGE OF SPANISH LITERATURE I. (3) *Prerequisite:* two 300-level courses. Collateral readings. From Garcilaso de la Vega to Calderon de la Barca. Book reports on collateral readings.

406. THE GOLDEN AGE OF SPANISH LITERATURE II. (3) *Prerequisite:* two 300-level courses. From Garcilaso de la Vega to Calderon de la Barca. Book reports on collateral readings.

409. SPANISH-AMERICAN LITERATURE I. (3) *Prerequisite:* two 300-level courses. Book reports on collateral readings.

410. SPANISH-AMERICAN LITERATURE II. (3) *Prerequisite:* two 300-level courses. Book reports on collateral readings.

492. SENIOR COLLOQUIUM. (3) *Prerequisite:* senior standing, and permission of the departmental chairman. Comprehensive review of the major field. Book reports on collateral readings. Term papers. Required of all Spanish majors.

Geography

Instructor Gibbs

101. PHYSICAL GEOGRAPHY (4) Land forms, mineral resources, climate, vegetation, soils, and water from the point of view of their significance to economic activities. Three lecture hours and one laboratory period of two hours a week.

102. REGIONAL WORLD GEOGRAPHY. (3) Regional geography dealing with various peoples of the earth and how they and their activities are influenced by topography, climate, and natural resources. Three lecture hours a week.

201. ECONOMIC GEOGRAPHY. (3) *Prerequisite:* Geography 101 or Geography 102. Study of the products of agriculture, commerce and industry and the conditions which affect their production, exchange and consumption.

301. GEOGRAPHY OF LATIN AMERICA. (3) *Prerequisite:* Geography 101; *or* Geography 102. Basic human and physical differences from place to place which affect economic, social, and political conditions. Cultural and economic relations with Europe and the United States. Three lecture hours a week.

Geology

Instructor Gibbs

201. PHYSICAL GEOLOGY. (4) The nature and occurrence of rocks and minerals, together with crustal features of the earth's surface. Emphasis on earth phenomena. Three lecture

hours and one laboratory period of two hours a week. Two or more one-day field trips to be arranged. Students who have completed Physical Geography 101 may not take Geology 201 for credit.

202. HISTORICAL GEOLOGY. (4) *Prerequisite:* Geology 201. Emphasis on stratigraphic and fossil history of the earth as found in the earth's crust together with the necessary information on both plant and animal kingdoms to trace the evolution of life down through the ages. Three lecture hours and one laboratory period of two hours a week. Two or more one-day field trips to be arranged.

301. MINERALOGY. (4) *Prerequisites:* Chemistry 102; Geology 201. Identification of the common and economically important minerals by means of the physical properties; chemical and blow-pipe tests. Principles of crystallography. Three lecture hours and one laboratory period of three hours a week.

302. GEOMORPHOLOGY. (4) *Prerequisite:* Geology 201. Major earth features and their origin with particular reference to North America. Three lecture hours and one laboratory period of two hours a week.

History and Political Science

Professors RIEKE, *Chairman,* HALL, WINNINGHAM; *Associate Professors* ABERNATHY, BLACKWELDER; *Assistant Professors* FREEMAN, MORRILL, PLOGER; *Instructors* FURLOW, JACKSON.

History

A major in History leading to the B.A. degree consists of 32 semester hours of history, including Development of Civilization (6) and Tutorial in History (2). Related work consists of 15 semester hours in the following recommended fields: economics, political science, literature, philosophy, and fine arts.

101. DEVELOPMENT OF CIVILIZATION. (3) Survey of world civilization from the earliest times to 1660.

102. DEVELOPMENT OF CIVILIZATION. (3). *Prerequisite:* History 101. Survey of world civilization from 1660 until the present.

201. AMERICAN HISTORY (3) Survey of American history from the earliest times to 1877.

202. AMERICAN HISTORY. (3) *Prerequisite:* History 201. Survey of American history from 1877 until the present.

231. ENGLISH HISTORY. (3) Survey of English history until 1603.

232. ENGLISH HISTORY. (3) Survey of English history from 1603 until the present.

271. RUSSIAN HISTORY. (3) Survey of Russian history until 1855.

272. RUSSIAN HISTORY. (3) Survey of Russian history from 1855 until the present.

301. HISTORY OF NORTH CAROLINA. (3) *Prerequisite or corequisite:* History 201. Emphasis on the colonial developments and on the constitutional, educational and transportation developments of the ante-bellum period.

303. AMERICAN SOCIAL AND INTELLECTUAL HISTORY. (3) *Prerequisite:* History 201-202. Development of American social institutions and thought from the beginnings to the Civil War.

304. AMERICAN SOCIAL AND INTELLECTUAL HISTORY. (3) Continuation of History 303 from the Civil War to the present.

312. AMERICAN ECONOMIC HISTORY SINCE 1800. (3) *Prerequisite:* Consent of instructor. Development of a national economy, including monetary and banking problems, industrialization, and problems of labor and agriculture.

314. AMERICAN DIPLOMATIC HISTORY. (3) *Prerequisite:* Consent of Instructor. American-foreign relations since the foundation of the Republic.

321. COLONIAL AMERICA (3) *Prerequisite:* Consent of instructor. Colonial history from the discoveries to 1763.

322. THE AMERICAN REVOLUTION AND EARLY NATION. (3) The achievement of independence and the creation of a national identity, 1763-1830.

331. BRITISH CONSTITUTIONAL HISTORY. (3) *Prerequisite:* History 231 or consent of instructor. The historical development of English administrative, legislative, and judicial institutions, principles and practices to 1485.

332. BRITISH CONSTITUTIONAL HISTORY. (3) *Prerequisite:* History 331 or consent of instructor. Continuation of History 331.

341. ANCIENT HISTORY. (3) From the earliest civilizations until the fourth century A.D.

342. MEDIEVAL HISTORY. (3) Political and cultural developments from the late Roman Empire until the Renaissance.

343. RENAISSANCE AND REFORMATION. (3) The intellectual and religious transformations of the early modern period and their political repercussions, 1300-1648.

375. THE WORLD SINCE 1917. (3) Major political trends resulting from the aftermath of two world wars. Equal attention given to the Western and Non-western worlds.

376. THE WORLD SINCE 1917. (3) Continuation of History 375.

378. BRITISH EMPIRE AND COMMONWEALTH SINCE 1815. (3) British imperial institutions and policies since 1815 with specific reference to selected colonies and commonwealths.

411. AMERICAN CONSTITUTIONAL HISTORY. (3) *Prerequisite:* Consent of instructor. Historical development of the American constitution.

412. AMERICAN CONSTITUTIONAL HISTORY. (3) Continuation of 411.

435. LATE TUDORS AND EARLY STUARTS. (3) *Prerequisites:* History 231 or Senior standing. England and the English people in the age of Shakespeare, Donne and Milton.

444. THE AGE OF ABSOLUTISM. (3) The problems of statecraft in the major continental countries, with some emphasis on cultural developments, 1648-1789.

445. FRENCH REVOLUTION AND NAPOLEON. (3) The changes in French politics and society and their effect on the Western World, 1789-1815.

492. TUTORIAL IN HISTORY. (2) Required of all history majors. Seminar in historical method, bibliography, and purpose of historical writing. A major research paper under the direction of staff member.

Political Science

A major in Political Science leading to the B.A. degree consists of 27 semester hours of political science, including Introduction to Politics and Political Institutions in the United States (3), Senior Seminar (3), and *either* the Process of Government in the United States (3) *or* Totalitarianism and Democracy (3). Related work consists of 18 semester hours.

201. INTRODUCTION TO POLITICS AND POLITICAL INSTITUTIONS IN THE UNITED STATES. (3) The formal and informal political institutions of the United States in their historical, cultural, and ideological context. The evolution of the modern constitution, co-operative federalism, equal suffrage, and constitutional rights. The making and effecting of public policy.

202. THE PROCESS OF GOVERNMENT IN THE UNITED STATES. (3) *Prerequisite:* Political Science 201. The origin, the making, and the implementation of public policy. Emphasis on the effect of government policy on various interests in society.

212. STATE AND LOCAL POLITICS AND POLITICAL INSTITUTIONS IN THE UNITED STATES. (3) *Prerequisite:* Political Science 201. The states in the federal system: their history, constitutions, governmental structure, and relations with other units of government; the problems of urban and suburban areas. Politics and policy formation at each level of government.

231. AN INTRODUCTION TO COMPARATIVE GOVERNMENT: TOTALITARIANISM AND DEMOCRACY. (3) *Prerequisite:* Political Science 201. A comparative analysis of the Soviet and American political systems, with emphasis on the means by which power is gained and wielded in the two societies. Historical and cultural experience is considered.

302. POLITICS, PARTIES AND PRESSURE GROUPS IN THE UNITED STATES. (3) *Prerequisite:* Political Science 201. Analysis of the structure, role, and techniques of political parties in the United States. The modern political system analyzed as the evolutionary product of the nation's political history. The role of non-party groups in the political process.

331. COMPARATIVE POLITICAL SYSTEMS OF WESTERN EUROPE. (3) *Prerequisite:* Political Science 201. A comparative analysis of the politics and political institutions of Western Europe, especially Great Britain, France and Germany.

336. THE POLITICS OF THE SOVIET BLOC. (3) *Prerequisite:* Political Science 201. A comparative analysis of the politics and political institutions of the USSR and the satellites. Special reference will be made to the Communist ideology in actual practice.

353. HISTORY OF POLITICAL THOUGHT. (3) *Prerequisite:* Political Science 201. Major concepts and systems of political thought from Plato to the Seventeenth Century.

354. HISTORY OF POLITICAL THOUGHT. (3) *Prerequisite:* Political Science 353. Continuation of Political Science 353. Major concepts and systems of political thought from the Seventeenth Century until the present. The relevance of political theory to political action.

356. THE POLITICAL THEORY OF THE EIGHTEENTH CENTURY. (3) *Prerequisite:* Political Science 201. The development of liberal and democratic political thought. Major emphasis is on English, French and American political thought from the revocation of the Edict of Nantes in 1685 to the end of the revolutionary period in 1815.

362. AN INTRODUCTION TO INTERNATIONAL POLITICS AND INSTITUTIONS. (3) *Prerequisite:* Political Science 201. Analysis of politics among nations: material and psychological sources of national power, the role of law, force and diplomacy in world politics, problems of peace and disarmament and international organizations.

364. AMERICAN FOREIGN POLICY. (3) *Prerequisite:* Political Science 201. The problem of defining the objectives of foreign policy in the United States and of selecting the means for achieving them; past, present and suggested American strategies in world politics. Comparisons will be made with the processes and issues in other nations.

421. CONSTITUTIONAL POLITICS. (3) *Prerequisite:* Political Science 201. Analysis of the federal judiciary, the decision-making behavior of the justices of the Supreme Court, the policy-making role of the Supreme Court in several major areas. Emphasis is placed not only on the content of historic Supreme Court decisions, but on the politics and personalities of the Court as well.

446. POLITICAL SYSTEMS IN TRANSITION. (3) *Prerequisite:* Political Science 201. The comparative political experience of selected less developed countries.

453. RECENT AND CONTEMPORARY POLITICAL THEORY. (3) *Prerequisite:* Political Science 201. The theoretical foundations of modern political practice. An analytical and historical study of the theories from 1900 to the present. Background to modern theory found in the theory of other eras of history will be considered.

458. AMERICAN POLITICAL THEORY. (3) *Prerequisite:* Political Science 201. American political thought from colonial times to the social service state. The European origins of American theories are a major part of the course.

462. INTERNATIONAL ORGANIZATIONS. (3) *Prerequisite:* Political Science 201. The structure, processes and problems of current general and regional international organizations, with emphasis on the United Nations.

471. CONTEMPORARY PROBLEMS IN SOVIET FOREIGN POLICY. (3) *Prerequisite:* Political Science 201. The current problems within the Communist bloc; its relations with the rest of the world.

481. AN INTRODUCTION TO THE STUDY OF PUBLIC ADMINISTRATION. (3) *Prerequisite:* Political Science 201. An institutional and behavioral analysis of the administrative process. Includes: the rise of the administrative state, its impact on administrative theory and practice, and the nature of the new

public bureaucracy; the tasks of the administrator; the political environment of administration; organization, personnel and finance; the regulatory function and administrative law; and administrative responsibility.

482. RECENT NATIONAL POLICY AND ADMINISTRATION. (3) *Prerequisite:* Political Science 201. An analytical and critical survey of basic national policies affecting business, labor, agriculture, and other groups. An examination of the assumption by our government of major responsibility for the guidance and direction of the American economy.

492. SENIOR SEMINAR: THE METHODOLOGY OF MODERN POLITICAL SCIENCE. (3) *Prerequisite:* Senior standing. Scope and method of Political Science. A course in the "how" and "why" of the discipline rather than the "what." The staff in Political Science will lead the seminar in the consideration of: (1) major works in Political Science (books and scholarly articles), (2) significant research methods and tools for analysis, (3) some more important theories currently guiding research in the discipline, and (4) the present posture or direction of the discipline.

Mathematics

Professors Wahab, *Chairman,* Goodrum[1], Perel; *Associate Professors* George, Markham; *Assistant Professors* Lawrence, Nixon; *Instructors* Bernstein, Marshall, Morrow, Walker

A major in Mathematics for the B.A. degree and the B.S. degree consists, respectively, of 27 and 40 semester hours of mathematics courses numbered above 104 and approved by the Mathematics Department. For each degree 18 semester hours of approved related work is required.

101. ELEMENTARY ALGEBRA. (3) Sets, Logic, algebraic structures. (Credit for both 101 and 103 will not be given)

102. ELEMENTARY ANALYSIS. (3) *Prerequisite:* Mathematics 101. A brief treatment of basic concepts of differential and integral calculus with applications to the social and life sciences.

103. ALGEBRA. (3) Sets, logic, an axiomatic treatment of the real numbers as a complete, ordered field, solution sets of equations and inequalities, matrices, complex numbers, and mathematical induction. (Credit for both 101 and 103 will not be given.)

104. VECTOR ALGEBRA. (3) *Prerequisite or corequisite:* Mathematics 103. Algebra and geometry of vectors, with trigonometry.

141. INTRODUCTORY ANALYSIS I. (4) *Prerequisite:* Mathematics 103 and 104 with C or better in each. (If a student can show to the satisfaction of the Mathematics Department that his knowledge of Mathematics 103 or 104 is adequate, he may be exempted from taking one or both of these courses as prerequisites for Mathematics 141.) The first course of a four semester sequence, including vector spaces, linear transformations, analytic geometry, the calculus of vector functions of vector variables, differential equations, and numerical methods.

142. INTRODUCTORY ANALYSIS II. (4) *Prerequisite:* Mathematics 141 (with C or better). A continuation of Mathematics 141.

221. INTRODUCTION TO PROBABILITY AND STATISTICS I. (3) *Prerequisite:* Mathematics 102; or permission of the department. The first course in a two semester sequence of a modern introduction to the mathematical theory of probability and statistics with applications.

222. INTRODUCTION TO PROBABILITY AND STATISTICS II. (3) *Prerequisite:* Mathematics 221. A continuation of Mathematics 221.

241. INTRODUCTORY ANALYSIS III. (4) *Prerequisite:* Mathematics 142 (with C or better). A continuation of Mathematics 142.

242. INTRODUCTORY ANALYSIS IV. (4) *Prerequisite:* Mathematics 241 (with C or better). A continuation of Mathematics 241.

311. OPERATIONS RESEARCH I. (3) *Prerequisite:* Mathematics 222 or consent of department. The first course of a two semester sequence including matrix algebra, convex sets, linear programming, and theory of games.

312. OPERATIONS RESEARCH II. (3) *Prerequisite:* Mathematics 311. A continuation of Mathematics 311.

322. PROBABILITY AND STATISTICS. (3) *Prerequisite:* Mathematics 222 and 242. Sample spaces and random variables, limit theorems and stochastic processes, estimation and hypothesis testing.

331. COMPUTER SCIENCE I. (3) *Prerequisite:* Mathematics 141 or 221 or consent of the department. The first course of a

sequence including the characteristics, language and logical design of computers with applications in the behavioral and physical sciences.

332. COMPUTER SCIENCE II. (3) *Prerequisite:* Mathematics 331. A continuation of Mathematics 331.

341. ADVANCED CALCULUS I. (3) *Prerequisite:* Mathematics 242 (with minimum grade of C) or consent of department. The first course of a two semester sequence including calculus of vector functions and of scalar and vector fields, implicit functions, Jacobians, line, surface, and volume integrals, gradient, divergence, curl, Gauss' Theorem, Stokes' Theorem, Green's Theorem, and introduction to potential theory.

342. ADVANCED CALCULUS II. (3) *Prerequisite:* Mathematics 341 (with a minimum grade of C) or consent of department. A continuation of Mathematics 341.

343. ANALYSIS I. (3) *Prerequisite:* Mathematics 241 (with minimum grade of C). The first course of a three semester sequence including real and complex number systems, sets, limits, and continuity, differentials of functions of one and several variables, applications of partial differentiation, functions of bounded variations, rectifiability, connectedness, the Riemann-Stieltjes integral, multiple integrals, line integrals, vectors and vector fields, gradients, divergence, curl, Laplacian.

344. ANALYSIS II. (3) *Prerequisite:* Mathematics 343. A continuation of Mathematics 343.

361. LINEAR ALGEBRA. (3) *Prerequisite:* Mathematics 142 or consent of department. Algebra and geometry of vector spaces, linear transformations and matrices, linear equations and characteristic values.

362. NUMBER THEORY. (3) *Prerequisite:* Department permission. Introductory topics from the theory of rational and algebraic integers.

363. MODERN ALGEBRA I. (3) *Prerequisite:* Mathematics 242 or consent of department. The first course of a two semester sequence covering topics in group theory, rings and ideals, fields, and Galois theory.

364. MODERN ALGEBRA II. (3) *Prerequisite:* Mathematics 363. A continuation of Mathematics 363.

381. FUNDAMENTAL CONCEPTS OF GEOMETRY. (3) *Prerequisites:* Mathematics 142 or consent of department. Foundations of geometry, affine geometry, comparison of Euclidean and non-Euclidean geometries.

391. SEMINAR. (2) *Prerequisite:* Departmental permission. Readings, study and discussion designed to develop the student's ability to study independently and to present his results properly

392. SEMINAR. (2) *Prerequisite:* Departmental permission. A continuation of 391.

403. ARITHMETIC IN THE SCHOOL. (3) *Prerequisite:* Mathematics 102 or equivalent. A study of the number systems with emphasis placed upon the basic concepts and meanings: properties of additions, multiplication, inverses, systems of numeration, and the number line appropriate for each grade. (Does not count towards a mathematics major)

443. ANALYSIS III. (3) *Prerequisite:* Mathematics 344. A continuation of Mathematics 344.

491. SEMINAR. (2) *Prerequisite:* Departmental permission. Individual investigations and appropriate exposition of the results.

492. SEMINAR. (2) *Prerequisite:* Departmental permission. A continuation of Mathematics 491.

Music

Instructor Woodruff *(Part-time)*

101. CHORUS I. (1) Opportunity for students who enjoy singing to gain basic training in the principles of voice production and choral participation in the Charlotte College Chorus. Repertoire of both sacred and secular music. Public appearances through assembly programs, commencement, and radio and television presentations.

102. CHORUS I. (1) Continuation of Music 101.

103. INDIVIDUAL VOICE STUDY. (1) Basic techniques of singing; classification of the voice, breathing, posture, freedom and vitalization of tone, elements of diction, vocalization, simple songs in English and Italian. One hour of practice daily.

104. INDIVIDUAL VOICE STUDY. (1) Continuation of Music 103. One hour of practice daily.

201. CHORUS II. (1) Choral training and chorus presentations with the Charlotte College Chorus.

202. CHORUS II. (1) Continuation of Music 201.

203. ADVANCED VOICE STUDY. (1) Standard classics in English and Italian with additional study of songs in French or German or Spanish. Memorization of basic repertoire with application of sound principles of interpretation. One hour of practice daily.

204. ADVANCED VOICE STUDY. (1) Continuation of Music 203. One hour of practice daily.

205. MUSIC APPRECIATION. (2) Designed primarily to enhance the enjoyment of listening to music and to develop the art of discrimination through understanding. Emphasis will be placed on maximum exposure to fine music through recordings, films, and live presentations. No previous technical knowledge is required.

301. CHORUS III. (1) Choral training and chorus presentations with the Charlotte College chorus.

302. CHORUS III. (1) Continuation of Music 301.

303. ADVANCED VOICE STUDY. (1) Continuation of Music 204. One hour of practice daily.

304. ADVANCED VOICE STUDY. (1) Continuation of Music 303. One hour of practice daily.

401. CHORUS IV. (1) Continuation of Music 302.

402. CHORUS V. (1) Continuation of Music 401.

407. APPLIED MUSIC. (2) *Prerequisite:* Education 303. Methods and materials of instruction which the teacher can apply in a music program in the school.

Philosophy

Assistant Professor Corkey

201. SYSTEMATIC INTRODUCTION. (3) The major issues in philosophy. Typical problems, such as moral freedom, the mind-body relationship, and the status of moral judgments. The schools of materialism, idealism, realism, and pragmatism described.

203. DEVELOPMENT OF PHILOSOPHY. (3) A historical approach to philosophy with references to the systems of western thinkers.

205. INTRODUCTION TO LOGIC (3) A survey of the general principles of deductive and inductive logic and of the nature of scientific method. Elements of symbolic logic.

301. ETHICS. (3) A survey of the development of ethical thought in ancient and modern times, with special references, etc.

Physical Education

101, 102. PHYSICAL EDUCATION. (1, 1) To be offered as soon as facilities are available.

408. HEALTH EDUCATION LABORATORY. (2) *Prerequisite:* Education 303. Health instruction, principles of health teaching for the elementary school.

409. PHYSICAL EDUCATION LABORATORY. (2) *Prerequisite:* Education 303. Instruction in informal and team games for the elementary grades.

Physics

Assistant Professor MacRae

100. TWENTIETH-CENTURY PHYSICS. (4) Topics include the historical development of the atomic and nuclear view of matter; the nature of light, X-rays, and radioactivity; atomic and thermonuclear energy. Cannot be taken for credit if Physics 211 and 212 have already been taken. Three lecture hours and one laboratory period of two hours a week.

201. PHYSICS FOR ENGINEERS. (5) *Corequisite:* Mathematics 142. Classical topics of general physics, emphasizing modern concepts especially useful in the various fields of engineering. Problem solving and a rigorous mathematical appreciation of all topics. Four lecture hours and one laboratory period of three hours a week.

202. PHYSICS FOR ENGINEERS. (5) *Prerequisite:* Physics 201. Continuation of Physics 201. Four lecture hours and one laboratory period of three hours a week.

211. GENERAL PHYSICS. (4) *Prerequisites:* Mathematics 102; *or* Mathematics 104. The fundamental principles of mechanics, heat, sound, electricity, light, and a survey of modern physics. Emphasis on accuracy in observation and measurements in the laboratory. Three lecture hours and one laboratory period of three hours a week.

212. GENERAL PHYSICS. (4) *Prerequisite:* Physics 211. Continuation of Physics 211. Three lecture hours and one laboratory period of three hours a week.

311. SURVEY OF MODERN CONCEPTS IN PHYSICS. (2) *Prerequisite:* Physics 202; *or* Physics 212. A quantitative analysis of the historical development of the atomic and nuclear view of matter; the nature of light, X-rays, and radioactivity; atomic and thermonuclear energy. Cannot be taken for credit by those with major emphasis in physics. Two lecture hours a week.

312. SURVEY OF MODERN CONCEPTS IN PHYSICS. (2) *Prerequisite:* Physics 311. Continuation of Physics 311. Cannot be taken for credit by those with major emphasis in physics. Two lecture hours a week.

Psychology

Professor Diamant; *Instructor* Windholz

201. GENERAL PSYCHOLOGY. (4) Survey of general psychology as a behavioral science. Three lecture hours and one laboratory period of two hours a week.

202. EDUCATIONAL PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. The psychology of learning problems of adjustment to instructional processes.

301. CHILD PSYCHOLOGY. (3) *Prerequisite:* Education 201, Psychology 202. The instincts, emotions and general tendencies of children up to the age of twelve. Remedial measures suggested in dealing with early child tendencies which might lead to serious difficulty. Special study of at least one child required of each student.

302. ADOLESCENT PSYCHOLOGY. (3) *Prerequisites:* Education 201, Psychology 202. Developmental and psychological characteristics of adolescence in the light of contemporary society. Research methods and familiarity in case study emphasized.

303. SOCIAL PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. The crowd suggestion, the mob mind, conventionality, and custom imitation. Investigation of the psychology involved in compromise, discussion, conflict, and war.

305. THEORY OF PERSONALITY DEVELOPMENT. (3) *Prerequisite:* Psychology 201. Current personality theories. Consideration of psychoanalytic, physiological, trait and factor and perceptual viewpoints in the light of contemporary research.

307. ABNORMAL PSYCHOLOGY. (3) *Prerequisite:* Psychology 201. A history of psychopathology. Case studies, differential diagnosis, psychological dynamics of abnormal behavior, including theoretical, clinical and experimental contributions in the field.

405. TESTS AND MEASUREMENTS. (3) *Prerequisite:* Education 303 or 402. A survey of psychological and educational measurements in current use. Emphasis will be placed on the structure, administration, and application of group tests. Individual tests such as Stanford Binet, WISC, and WAIS will be reviewed.

Religion

Assistant Professor Corkey

201 SURVEY OF THE OLD TESTAMENT. (3) An introduction to the literary and historic values of Old Testament

literature. Emphasis upon the background, purpose, and content of the writings in English translations.

202. SURVEY OF THE NEW TESTAMENT. (3) New Testament literature in its historic and contemporary background. Emphasis upon the content and purpose of the text in English translations.

Sociology

Professor HARLAN

201. GENERAL SOCIOLOGY. (3) Survey of the field of sociology covering such topics as: social norms and values, status and role, social stratification, socialization, crowds and publics, formal and informal groups, urban communities, population, social institutions.

203. GENERAL ANTHROPOLOGY. (3) Survey of the field of anthropology: physical anthropology, prehistoric archeology, ethnology, culture theory.

302. SOCIAL PROBLEMS. (3) *Prerequisite:* Sociology 201. Sociological analysis of crime and delinquency, alcoholism, drug addiction, mental disorders, race relations and problems of population.

303. SOCIOLOGY OF THE FAMILY. (3) *Prerequisite:* Sociology 201. Analysis of the structure and functioning of the American family and of such related institutional patterns as dating, courtship, marriage and divorce.

304. HUMAN RELATIONS IN INDUSTRY. (3) *Prerequisite:* Sociology 201. Training in the development of personality, ability to analyze problems involving human relations, and the development of good foundations for personnel relations. Studies of actual cases of human relations problems in industry with a view toward developing the technique of working with superiors, associates, and subordinates.

Terminal Programs

Assistant Professor HIGGINS; *Instructors* DUNN, MCCREARY

Business Administration and Accounting

T101. INTRODUCTION TO ACCOUNTING. (4) Theory of debits and credits; construction of the trial balance, work sheet, income statement, and balance sheet. Problems and materials characteristic of the single proprietorship form of business organization. Payroll accounting. Introduction to the field of data processing and the rapidly increasing role it plays in modern businesses. Three lecture hours and one laboratory period of two hours a week.

T102. INTRODUCTION TO ACCOUNTING. (4) *Prerequisite:* Business Administration T101. Accounting theory and types of internal and external uses of accounting data; valuation of assets and liabilities and determination of income; analysis of financial statements. Emphasis on partnership and corporation organizations. Introduction to job order cost and cost accounting. Three lecture hours and one laboratory period of two hours a week.

T103. PRINCIPLES OF ADVERTISING. (3) Survey of all forms of advertising. Principles of layout; copywriting; production methods; campaign preparation; media selection.

T104. SALESMANSHIP. (3) Fundamental principles of wholesale and retail selling. Analysis of sales propositions to a qualified customer.

T111. BUSINESS CORRESPONDENCE. (3) *Prerequisite:* English 101. Fundamentals of grammar. Vocabulary building. Survey of modern business letters and reports.

T121. BUSINESS MATHEMATICS. (3) Applications of mathematics to typical accounting, financial, and other business problems, including bank discounts, trade discounts, weighted averages, merchandise markup and turnover. Application of compound interest principles to sinking fund and amortization problems. Introduction to payroll accounting computations and income tax accounting for individuals.

T201. INTERMEDIATE ACCOUNTING. (3) *Prerequisite:* Business Administration T102. Review of accounting procedures and consideration of alternative practices with a more detailed study of basic concepts and their applications. Comparative statements and analytical percents and ratios; analysis of working capital; accounting pertaining to capital structure of corporations. Two lecture hours and one laboratory period of two hours a week.

T202. ADVANCED ACCOUNTING. (3) *Prerequisite:* Business Administration T201. Classification and analysis of liabilities; application of accounting principles to income determination and valuation; correction of profits of prior periods, statement of sources and application of funds. Two lecture hours and one laboratory period of two hours a week.

T203. INCOME TAX ACCOUNTING FOR INDIVIDUALS. (3) *Prerequisite:* Business Administration T101. Intensive study of federal and state income tax laws and the preparation of individual income tax returns of all types. Emphasis on preparation of tax returns in laboratory work. Two lecture hours and one laboratory period of two hours a week.

T206. INCOME TAX ACCOUNTING FOR BUSINESSES. (3) *Prerequisite:* Business Administration T203. Income tax laws and the preparation of returns for partnerships, corporations, estates, trusts, and proprietorships. Emphasis on preparation of state and federal returns in laboratory work. Two lecture hours and one laboratory period of two hours a week.

T207. COST ACCOUNTING. (4) *Prerequisite:* Business Administration T102. Introduction to cost accounting procedure and systems. Emphasis on job order and process costs. Laboratory work consists of practice set for each. Brief study of standard cost. Three lecture hours and one laboratory period of two hours a week.

T227. PERSONNEL MANAGEMENT. (3) Job instruction training to improve the supervisor's efficiency in training personnel; supervisory techniques for the supervisor in developing his ability to lead his personnel more efficiently; planned discussion and demonstrations of tested techniques in solving problems arising from human relations; employment techniques to assist personnel manager in interviewing, testing, making job analyses, and maintaining personnel records.

Business Education and Secretarial Science

T155. BEGINNING TYPEWRITING. (2) Mastery of the keyboard. Emphasis on care of machine, its operating parts, simple tabulation, speed and accuracy building. No credit given to any student with previous college or high school typewriting.

T156. BEGINNING TYPEWRITING. (2) Emphasis on typing business letters, tabulation, elemental composition at typewriter, speed and accuracy building. No credit given to any student with two semesters of college typewriting or two years of high school typewriting.

T157. BEGINNING SHORTHAND. (3) Shorthand theory and speed building. No credit given to any student with previous college or high school shorthand. 3 lecture hours and one laboratory period of two hours per week.

T158. BEGINNING SHORTHAND. (3) Emphasis on accuracy and development of speed in taking dictation. 3 lecture hours and one laboratory period of two hours per week.

T255. ADVANCED TYPEWRITING. (2) Different styles of business letters, business and accounting reports, tabulated material, legal papers, and effective display of typed material.

T256. ADVANCED TYPEWRITING. (2) *Prerequisite:* Business Education T255. Simulates office typing by use of practice set. Emphasis on accuracy, typewriter composition, details in making carbon copies, and format in applying for a position in business.

T257. ADVANCED DICTATION. (3) Dictation and transcription with a thorough review of shorthand theory. Development of accuracy, speed, neatness, and comprehension. 3 lecture hours and one laboratory period of two hours per week.

T258. ADVANCED DICTATION. (3) *Prerequisite:* Business Education T257. Continuation of the advanced skills in shorthand dictation. Intensive drills in production of mailable transcripts. 3 lecture hours and one laboratory period of two hours per week.

T261. OFFICE MACHINES. (3) *Prerequisite:* Business Education 155 or equivalent. Emphasis on developmental skills in the use of at least four add listing machines, two calculators; accounting, posting, and photocopying machines. Experience gained on duplicating and other machines. Strongly recommended as a prerequisite or corequisite to all accounting courses in terminal and university parallel programs.

T262. OFFICE PRACTICE. (3) *Prerequisites:* Business Education 111, 156, 158, and 261. Office methods and procedures. Development of those characteristics and personality traits desirable and essential in the business office.

Review Class for North Carolina Engineering Registration Examination

The forty-two hours of work in this course include a review of the fundamentals of engineering.

Summary of Enrollment for 1963-1964

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